

018913

MINERAL HILL PROPERTY

Hyder, Alaska

For STAR ONE RESOURCES INC.

January 1989

Report
on the

MINERAL HILL PROPERTY

Hyder District, Alaska, U.S.A.

**56°00'-56°02'30", 130°00'-130°03'
Bradfield Canal Sheet (A-1), AK.**

for

INTEREX DEVELOPMENT CORPORATION

and

STAR ONE RESOURCES INC.

by

R.H. Janes, P.Eng.

of

R. JANES & ASSOCIATES LTD.

Vancouver, B.C.

December 30, 1988

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* Map in pocket

SUMMARY

The Mineral Hill property, consisting of approximately 3000 acres, is located in the long established and now reactivated Stewart mining camp. It immediately adjoins the Silbak Premier precious metal deposit and is underlain by the same suite of rocks which host this deposit and the Big Missouri Group precious metal deposits. Westmin Resources and partners are bringing these two deposits into production in 1989 at a capital cost of 80 million dollars. Mineralization discovered on the Mineral Hill property consists of massive sulphides in andesites which carry economically significant gold values and sulphide mineralization over a true width of approximately one hundred feet which is very similar to that of the Big Missouri Group deposits. The potential of the property to host an economic precious metal deposit is considered very good. Consequently a continuing program of exploration involving geochemistry, mapping, geophysics and drilling is recommended. A cost estimate for the minimum program recommended is \$920,000.

STAR-ONE RESOURCES LTD.

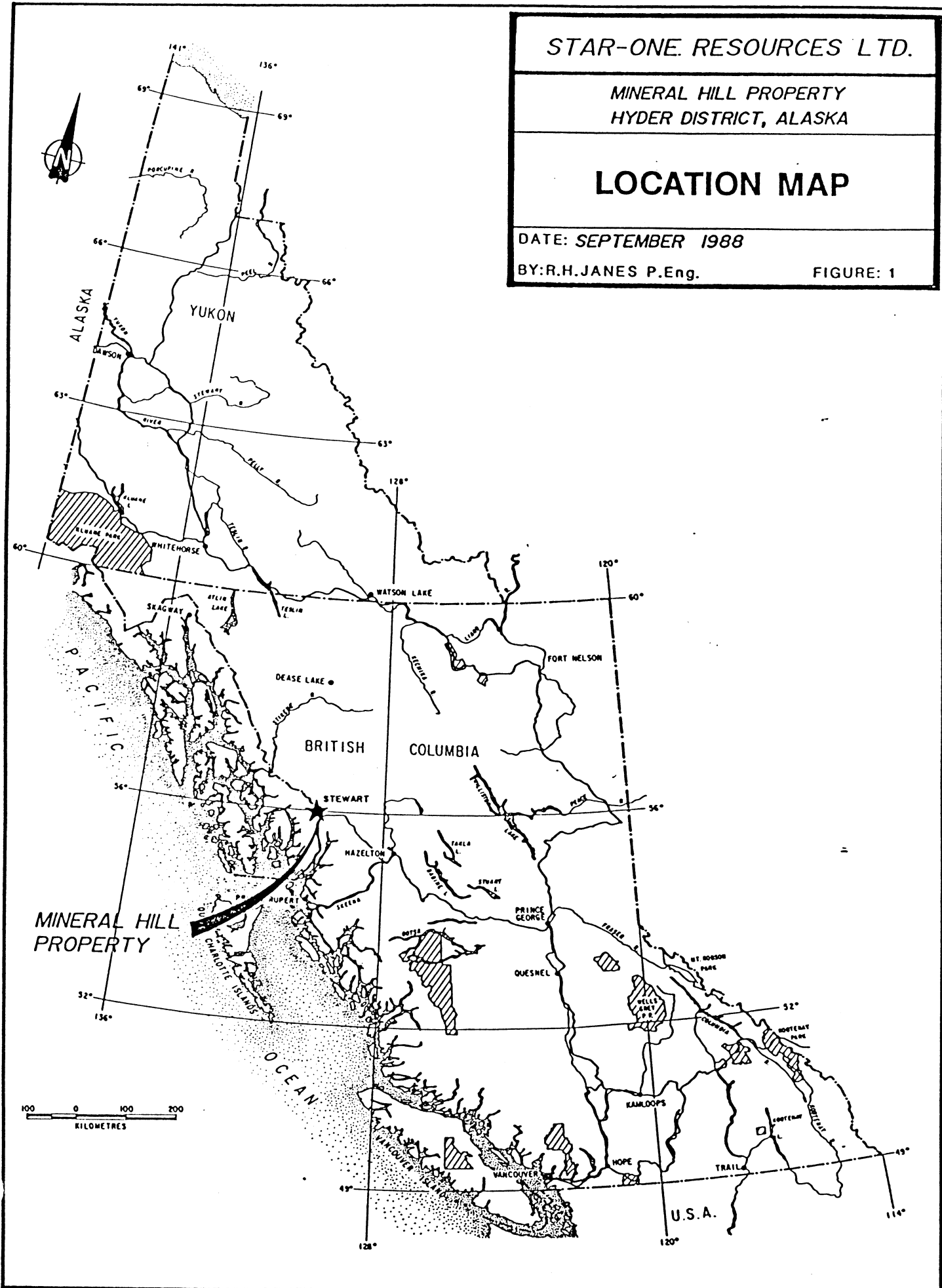
MINERAL HILL PROPERTY
HYDER DISTRICT, ALASKA

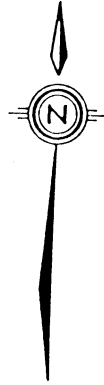
LOCATION MAP

DATE: SEPTEMBER 1988

BY: R.H. JAMES P. Eng.

FIGURE: 1





ESSO MINERALS
GRANDUC MINE (Cu)

SCOTTIE GOLD MINE (Au)

WESTMIN RESOURCES
BIG MISSOURI (Au,Ag)

ESSO MINERALS
TENAJOHN (Au)

BRITISH COLUMBIA

WESTMIN RESOURCES
PREMIER (Au,Ag)

ALASKA

MINERAL HILL PROPERTY
STAR ONE RESOURCES INC.
(Au,Ag-Cu)

MINERAL BASIN

SALMON R.

BEAR RIVER

STEWART

PACIFIC CASSIAR
PORTER IDAHO-
PROSPERITY (Ag)

HYDER

* COPY OF MAP BY W. THOMPSON

STAR-ONE RESOURCES LTD.

PROPERTY MAP, STEWART AREA
BRITISH COLUMBIA & ALASKA

0 1 2 3 4 5 6 miles

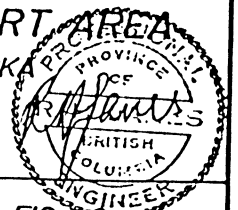


FIG. 2

INTRODUCTION

W. Thompson of Interex Development Corp., Vancouver, B.C., engaged R. Janes & Associates Ltd. to direct and supervise in the field a program of exploration on the Mineral Hill property. This is held by Star One Resources Inc., Vancouver, and consists of 162 mining claims, approximately 3000 acres. (See Appendix I for claim detail.)

The property is situated in the Ketchikan Recording District, Alaska, between five to eight and one-half miles north of Hyder, a small settlement at the southern end of southeast Alaska. Elevation progressing from west to east is from 400 to 5100 feet. Climate is characterized by abundant rainfall and moderate temperatures. From November to March, precipitation at low elevations is chiefly in the form of snow. Rainfall is least in late spring and early summer and increases until snow falls. The meteorological record on the coast at Stewart, some six miles south-southeast of the property, provides the following figures averaged between 1915 and 1965; snowfall 198.4 ins, rainfall 50.8 ins, and mean temperature 42⁰F. Dense virgin forest, consisting of hemlock and spruce, clothe the hillsides to around 3500 feet. Tree heights of 150 feet are not uncommon at lower elevations.

Access to the west side of the property is by foot from the Salmon River highway, an all-weather gravel road leading to the Westmin and Granduc mines. This road passes through several of the claims in the northwest corner. Access to the southern end and above timberline areas is via a three and one-half mile long, tortuous, unsurfaced road which climbs a steep mountain side. It is suitable only for short 4x4 vehicles and leaves the Salmon River highway five and one-half miles north of Hyder. The B.C.-Alaska border forms the eastern boundary of the property.

Hyder is a settlement of one hundred or less people and provides a few stores and postal service. Stewart, B.C., two and one-half miles by surfaced road from Hyder, has a population of 1500 which is growing. It is connected to the B.C. Highway system via surfaced Highway No. 37A. Stewart is Canada's most northerly ice-free, deep sea port. Present exports are logs and asbestos. The Alaska State Ferries operates a summer service between Stewart-Hyder and Ketchikan, AK. A surfaced airstrip at Stewart is suitable for medium sized aircraft. The usual services such as telephone, hospital, hotel, helicopter, bulk fuel, and heavy equipment leasing are available.

HISTORY AND WORK DONE

Gold and silver occurrences were first found in the Stewart area between 1893 and 1901. The discovery of occurrences rich in silver in the Cascade Creek in 1917 was followed in 1918 by the location of the Premier orebody.

The period 1910 to 1930 was probably the time of greatest prospecting activity in the Salmon River and Cascade Creek drainages. It was then that the prospects composing the Mineral Hill property were discovered and explored by trenching and tunneling. Since that time and until 1979, little work has been done in the property area. During the late 1950's, Mineral Basin Mining Corporation built about six miles of 4x4 road which provides access to the Roanan, Shasta, and Nos. 1 to 4 Iron prospects. Minor drifting was done at the Roanan with production of hand sorted ore. Recent exploration work commenced in 1979 when Houston International Minerals Corporation initiated work on the Alaska-Premier prospect. Exxon Corporation worked on the Stoner prospect during 1981 and 1983 and on the Titan prospect during 1983.

In about 1980, Pulsar Energy & Resources Inc. of Vancouver, B.C., acquired claims which covered most of the present Mineral Hill property plus an area to the immediate southwest. Claims in the latter area are held by Mineral Basin Mining Corporation as are those extending north-northeast along Skookum Creek. These protruded into the area staked by Pulsar (Resource U.S.) Inc. and are known as the "Finger Group". Pulsar and Mineral Basin came to an agreement on the Finger Group and the two claim groups were explored by Pulsar Energy & Resources in 1981, 1983, and 1984. The 1981 program was supervised by the consulting firm of Dolmage, Campbell & Associates (1975) Ltd. of Vancouver, B.C. During this three year period, a fairly extensive grid of flagged lines was laid out which included Skookum Creek and the area east down to the Salmon River highway. This grid provided ground control for an induced polarization survey, a

Crone electromagnetic survey and limited geological mapping. The Roanan prospect was drilled in 1983, this and several other prospects were mapped and sampled. Financial difficulties engulfed Pulsar and eventually the claims staked were allowed to lapse. Of the work done, data exists for the geophysical surveys, geological mapping of the grid, and detailed geology of three prospects. From 1981 to 1987, approximately \$750,000 was spent on the claims by Pulsar, mostly on prospects held by Mineral Basin Mining and situated west and south of the present Mineral Hill property.

Pulsar Energy & Resources Inc. was reorganized in 1987 with new management. The company restaked the ground originally held and again entered into an agreement with Mineral Basin Mining on the "Finger Group". Later in 1987, Pulsar contracted with Aerodat, Mississauga, Ontario, to fly a helicopter-borne magnetic, electromagnetic, and VLF survey over an area which included claims held by Pulsar and Mineral Basin and the Silbak-Premier mineral deposits. This was done between November 29 and December 16, 1987. Early in 1988, Pulsar Energy & Resources was renamed Star One Resources Inc. This company contracted with Interex Development Corp. to manage exploration of the Mineral Hill property.

Field exploration commenced July 15 with construction of the Skookum Creek camp situated on the 4x4 access road at an elevation of about 3000 feet. Control grids were established over selected prospects and EM conductors located by the airborne survey. Grids consisted of baselines run with a tripod mounted Brunton compass which were cut out with a chainsaw. Crosslines, run at 200 foot spacings using Silva Ranger compasses, were blazed and picketed at 100 foot intervals. All lines were corrected for slope using clinometers. Line spacing was closed to 100 feet in areas of interest. All grids were soil sampled at 100 foot intervals. Grids were mapped geologically according to priority, some only partly, some not at all. Also two adits were mapped. Diamond drilling commenced September 14. Total footage drilled was 3253 of BQ wireline divided between three

Table 1

PROSPECTS AND WORK DONE, MINERAL HILL PROPERTY

Prospect Name & No. from BC Open File Map 1987-22	Claim(s) Possibly Covering Prospect	Approx. Elev. (ft)	Work done before 1979 (ft)	Work Done by Pulsar Energy and Resources Inc. and Others	Work Done by Star One Resources in 1987-88 (87 Work Noted)
Roanan #122	PO 4 & 5	2800	Adits (125), drifts (270), winze (42), plus other winze and raise. One shipment reported of 64 tons of hand sorted ore to Tacoma Smelter, averaged 4.35 oz/t Au (4)	Mapping and sampling of underground workings. Eleven diamond drillholes on this and the Skookum vein (south of Mineral Hill property).	None.
Roanan Copper	PO 5	2700	Rock trenching.	Sampling.	None.
No. 1 Iron #123	OP 5	2650	Stripping & rock trenching.	Stripping and sampling. Within area of Crone EM and IP surveys (lines @ 100 metre intervals).	Within area of Shasta grid (52,000 ft. of lines). Mapped (1" = 100') and soil sampled. One DH, 88-S3, 430 ft. long.
Shasta Iron #120	PO 15	2850	Shaft (10), stripping and rock trenching.	Mapped @ 1:250 and 1:50, sampled. Within area of Crone EM and IP surveys.	Within area of Shasta grid. Mapped (1" = 100') and soil sampled. Two DH's, 88-S1 & -2, 455 ft.
No. 4 Iron #119	PO 15	3000	Stripping and rock trenching.	None.	Within area of Shasta grid. Mapped (1" = 100') and soil sampled. Prospect mapped (1" = 25').
No. 2 Iron	PO 10	3280	As above.	Mapped @ 1:200 and sampled. Within area of Crone EM and IP surveys.	Within area of Shasta grid. Soil sampled. Prospect sampled in 1987 and 1988.
No. 3 Iron	PO 29	3280	Stripping and rock trenching.	As above.	Within area of Shasta grid. Soil sampled.
Titan #115	PO 31	3250	Adit and several crosscuts (540). Stripping and rock trenching.	Surface sampling, uderground mapping and sampling (Exxon Minerals).	Seen but not visited.
Hyder Skookum #114	OP 8	3200	Rock trenching.	None.	Not seen.
Zebra #112	PO 43	3300	None(?)	None(?)	None.
Kline #111	PO 55	3200	Rock trenching & adit (15).	Sampled.	None.
Hobo #108	OP 11	2400	Rock trenching & 3 adits (17, 20, 230).	Sampled.	Covered by Hobo grid (11,000 ft. of lines). Mapped (1/3 @ 1" = 50') and soil sampled. Main adit cleaned out and mapped (1" = 20'). Two helicopter ports cut out.
Alaska-Premier #105	OP 16	1300	Rock trenching, 2 adits (12, 260)	Mapped at scales 1:500 and 1:50, soil sampled, magnetometer survey, mapped main adit @ 1" = 25' (Houston International Minerals Corp.)	Covered by Alaska-Premier grid (13,500 ft. of lines) part of Daly grid (48,200 ft. of lines) Mapped (1" = 100') in part and soil sampled. Main adit cleaned out and helicopter port cut out.
Upper Daly-Alaska #104	OP 20	1450	Rock trenching, 2 adits with drifts (120 & 20, 220)	None.	Covered by Daly-Alaska grid (7000 ft. of lines) part of Daly grid. Mapped (1" = 50') in part and soil sampled. Upper adit mapped (1" = 20'). Eight DH's 88-D1 to D8, 2368 ft. Cut out 2 drillsites and one helicopter port.
Hoosier #103	PO 72 & 73	?	Adit ? (10)	None.	Probably covered by Daly-Alaska Extension North grid (7000 ft. of lines), part of Daly grid. Soil sampled. Prospect not located.

prospects, Shasta (2 holes), No. 1 Iron (1 hole) and Daly-Alaska (8 holes). Core carrying more than about two percent sulphides was usually split and sampled in five foot lengths. Samples were set to Kamloops Research and Assay Laboratories for assay.

Gold and silver were generally determined, zinc, lead and copper if justified. Two samples contained free gold. Consequently, the combined rejects and pulps from fourteen selected samples were pulped, sieved for coarse gold and assayed by Min-En Laboratories. Results confirmed the initial assays. A second camp was established at the Daly-Alaska prospect on the old Daly packhorse trail. A wooden hut was built there and used to store camp and field equipment. The program ended October 18. Steep terrain and dense forest undergrowth slowed bush travel, consequently crews were frequently moved to work areas by helicopter. All drill moves were by helicopter; a Bell 205A and a 206B were used. Crew consisted of a geologist, foreman, generally six linecutters and samplers, cook, office assistant-core grabber, and four drillers. Overall cost of the 1988 program was approximately \$496,000.

Table I lists work done on each prospect. Table II lists EM conductors identified and reported on by Aerodat together with fieldwork done on these.

In the 1920's, A.F. Buddington and L.G. Westgate of the U.S. Geological Survey mapped the country north from Hyder and visited many prospects (4). Their account remains the best available description of the prospects on the property. Later surveys were done by J.G. Smith (16) of the USGS, E.W. Grove (7 and 8), and D.J. Alldrick (1 and 2), both of the BCGS. The latter work includes a 1:50,000 scale geological map which covers the area of interest.

Table 1 - PROSPECTS AND WORK DONE, MINERAL HILL PROPERTY (continued)

Project Name & No. from BC Open File Map 1987-22	Claim(s) Possibly Covering Prospect	Approx. Elev. (ft)	Work done before 1979 (ft)	Work Done by Pulsar Energy and Resources Inc. and Others	Work Done by Star One Resources in 1987-88 (87 Work Noted)
Stoner-Clegg-O'Rourke #102	PO 79 & 80	1350	Rock trenching, adit (75)	None.	As above
Lower Daly-Alaska #101	OP 22	400	Adit (140), 2 shafts, 2000 ft. of tunnelling? (18).	None.	Covered by Daly-Alaska Extension West grid (1000 ft. of lines) part of Daly grid. Soil sampled.
Stoner #100	PO 80	1450	Rock trenching, 2 adits (125 & ?).	Rock trenching. Mapped @ 1" = 300' (no control grid), prospect sampled and mapped @ 1" = 25', rock cuts mapped @ 1" = 20'. (Exxon Minerals Co.)	Covered by Stoner grid (23,350 ft. of lines). Soil sampled.
Virginia #97	PO 89 & 90		Rock trenching. Adit (50) and drifts (255). Upper adit (?).	None.	None.
Border #93	PO 97		Adit (70)	None.	None.

Table 2

AIRBORNE EM CONDUCTORS AND WORK DONE

Identification No. of EM Conductor from a/b Survey	Claims near to or Possibly Covering Conductor	Approx. Elev. (ft)	Work Done by Star One Resources in 1988	Interpretation
MW-3	PO 114 Fr	5000	None.	-
MW-4 MW-5	PO 45 & 46 PO 59 & 60	3250 3300	Reccy examination only. As above.	Follow topographic feature (fault valley). Considered to be a low priority target.
MW-6	PO 46 & 47	3400	None.	-
MW-7			Covered by Hobo grid. Mapped in part, soil sampled.	Graphitic shale forms outcrops, may be source of multiple conductors.
MW-9 MW-11	PO 73, 74 & 65A PO 72, 73 & 65	2150 2450	Both covered by Daly East grid (8000 ft. of lines). Soil sampled but not mapped. Part of Daly grid. Part of Daly Creek mapped.	No conductive medium observed.
MW-10	PO 66, 73 & 74	-2100 - 2600	MW-10 grid (3200 ft. of lines) covers upper part only of conductor. Soil sampled. Unable to complete grid due to cliffs. Part of Daly grid.	No conductive medium observed.
MW-13	PO 97	600	None.	Southern half follows Salmon River highway.
MW - 16	PO 98 & 99	1400 - 1500	None.	Extension of feature which follows, in part, collapsed Premier aerial tramway.

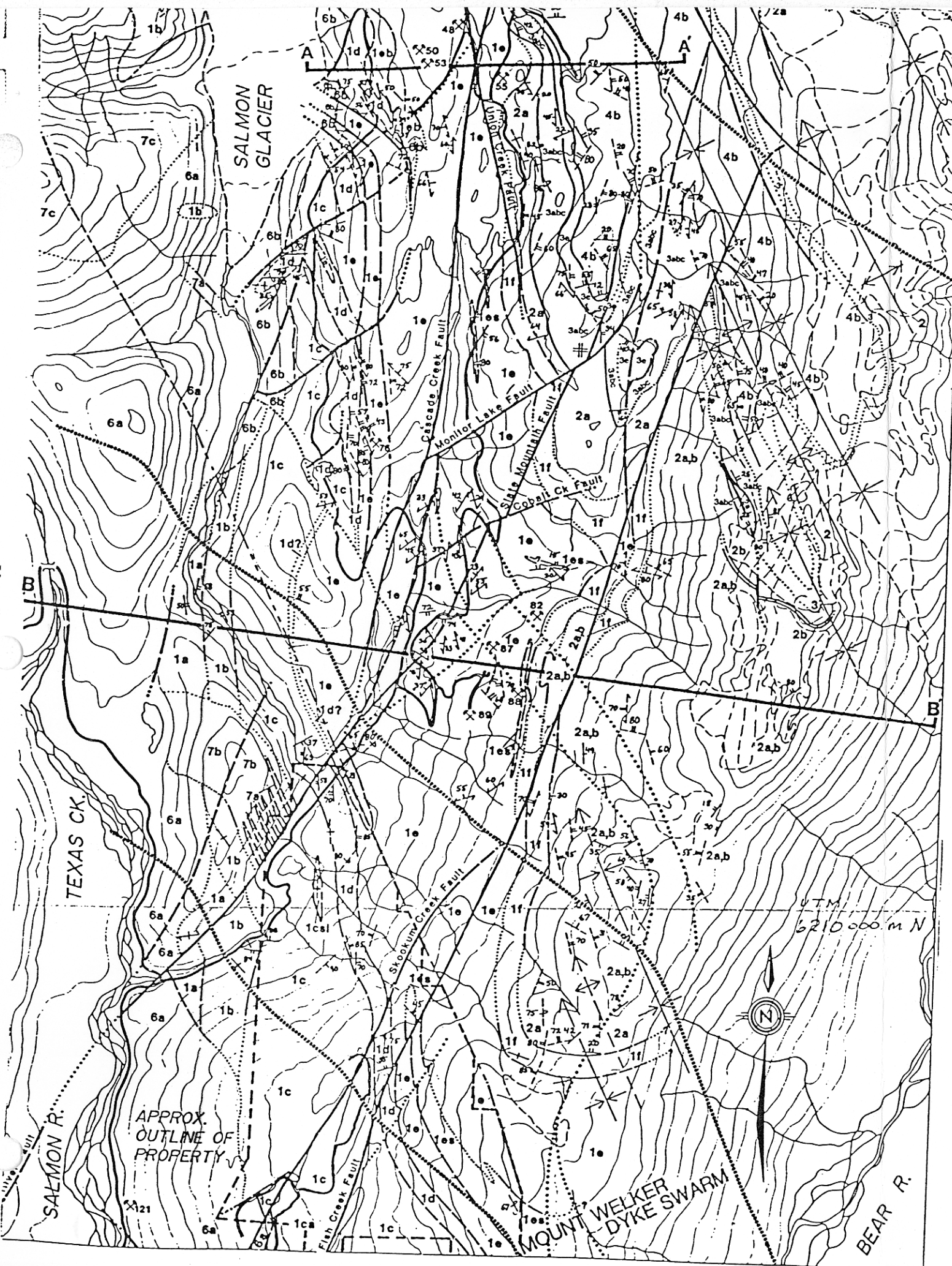
REGIONAL GEOLOGY AND MINERAL DEPOSITS*

The region lies along the eastern flank of the Coast Plutonic Complex and west of the Bowser Basin. It is underlain by Hazelton Group volcanics and sediments of Jurassic age, granitoids related to the volcanics and later Tertiary acid intrusives. Economic deposits of gold, silver and base metals are present. It forms part of the Stewart Complex, an idealized tectonic element of the region which extends from the Iskut River in the north to Alice Arm in the south.

The Hazelton Group, the oldest rocks in the Stewart area, comprises the Unuk River Formation (4500 feet), Betty Creek Formation (1500 feet), Salmon River Formation (4700 feet), and the Mass Formation (3000 feet). Grove states that "The assemblage includes ubiquitous clastic sedimentary units intimately intercalated with volcanic flows, epiclastic volcanic rocks, pyroclastic rocks and interbedded limestones. The rocks are predominantly andesitic or derived from andesitic flows." Formation diversions are made at areal unconformities.

The Unuk Formation represented widespread Lower Jurassic volcanism and sedimentation. In the Salmon and Unuk River areas, this formation was invaded by granitoids possibly comagmatic with the volcanics. Regional compression followed. This was accompanied by cataclastic deformation, metasomatism, normal faulting and regional uplift. Following erosion of the Unuk Formation, the Betty Creek Formation was deposited in probably a shallow marine environment. Betty Creek sedimentation and volcanism were followed by normal faulting, graben development, minor folding, uplift and erosion. The deposition of the Salmon River Formation of Middle Jurassic age marked a time of widespread transgression with fine-grained marine sediments filling fault-controlled troughs. The Nass Formation of Upper Jurassic age is similar to the Salmon River and is separated from it on the basis of a granite cobble zone. It is largely restricted to the

* Much of this section is taken from Bulletin 63 by E.W. Grove.



LEGEND

- LOWER JURASSIC (PLIENSCHACHIAN TO TOARCICAN)**
- COARSE CLASTIC SEQUENCE (BETTY CREEK FORMATION)**
- 2b ANDESITE TO DACITE TUFFS AND FLOWS Interbedded with 2a, ash tuffs, crystal tuffs, lapilli tuffs, tuff breccias, minor porphyritic flows and welded ash flows, green to grey
 - 2a SEDIMENTARY ROCKS Interbedded with 2b, hematitic conglomerate, grit, sandstone, siltstone, mudstone, minor limestone, maroon to purple
- UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO PLIENSCHACHIAN)**
- ANDESITE SEQUENCE (UNUK RIVER FORMATION)**
- 1g AUGITE PORPHYRY FLOWS Massive pyroxene porphyritic andesite, dark green
 - 1f PREMIER PORPHYRY FLOWS Orthoclase megacrystic, plagioclase + hornblende porphyritic andesite, fine-grained groundmass, green, maroon, purple, grey, black, local tuff breccia lenses
 - 1e UPPER ANDESITE TUFFS Dust, ash, crystal and lapilli tuff and tuff breccia, with local welded tuff, intercalated hematitic sediment lenses (1f) Basal unit is black carbonaceous andesite ash tuff and lapilli tuff (1eb)
 - 1d UPPER SILTSTONE MEMBER Carbonaceous thin bedded argillite, siltstone, sandstone, with local basal conglomerate, 1dc, and coralline limestone, 1df
 - 1c MIDDLE ANDESITE TUFFS Mainly ash tuffs, lesser dust and lapilli tuffs, inter-bedded augite porphyry, 1ca, and two- to six-lapilli porphyry flows, minor graded sandstone, 1cd, and siltstone, 1ce
 - 1b LOWER SILTSTONE MEMBER Carbonaceous thin-bedded argillite, siltstone
 - 1a LOWER ANDESITE TUFFS Ash tuffs
- EARLY TO MIDDLE EOCENE**
- HYDER QUARTZ MONZONITE SUITE**
- 7d HYDER BATHOLITH Biotite quartz monzonite to granodiorite, golden sphene, ± hornblende, medium to coarse-grained, locally felspar porphyritic (Outcrops to southwest of map sheet)
 - 7c BOUNDARY STOCK Biotite granodiorite, golden sphene, ± hornblende, medium-grained
 - 7b MINERAL HILL STOCK Plagioclase porphyritic, biotite + hornblende quartz monzonite
 - 7a HYDER DYKES Plagioclase porphyritic, biotite or biotite + hornblende granodiorite
- JURASSIC**
- EARLY JURASSIC**
- TEXAS CREEK GRANODIORITE SUITE**
- 6e TEXAS CREEK DYKES Orthoclase + hornblende porphyritic granodiorite coarse-grained groundmass (narrow, not shown)
 - 6d SUMMIT LAKE STOCK Coarse-grained hornblende granodiorite
 - 6c PREMIER PORPHYRY DYKES Orthoclase ± hornblende porphyritic granodiorite, fine-grained chloritic groundmass. Abundant in Premier Mine area (narrow, not shown)
 - 6b TEXAS CREEK BATHOLITH (PORPHYRY PHASE): Orthoclase ± hornblende porphyritic granodiorite, coarse-grained groundmass
 - 6a TEXAS CREEK BATHOLITH Coarse-grained hornblende granodiorite

- HAZELTON GROUP**
- MIDDLE JURASSIC (TOARCICAN TO BAUCICAN)**
- SILTSTONE SEQUENCE (SALMON RIVER FORMATION)**
- 4b Carbonaceous and calcareous thin to medium-bedded siltstone, shale, argillite and sandstone with minor conglomerate and limestone
 - 4a BASAL MEMBER Grey to black grits, ash-rich siltstone, sandstone, argillite and limestone, with minor fossiliferous limestone, pumice conglomerates and weakly pyritic units, ≤ 10 metres thick
- LOWER JURASSIC (TOARCICAN)**
- FELSIC VOLCANIC SEQUENCE (MOUNT DILWORTH FORMATION)**
- 3e BLACK TUFF Lateral equivalent to 3d, felsic carbonaceous tuff, crystal tuff and lapilli tuff with limestone, pumice and pyrite clasts; minor interbedded sediments
 - 3d PYRITIC LAPILLI TUFF Lateral equivalent to 3e; siliceous airfall lapilli tuff to tuff breccia with 5% to 15% disseminated pyrite. Strong gossan development (Map 2)
 - 3c UPPER LAPILLI TUFF Siliceous massive airfall lapilli tuff to tuff breccia, partially welded, cream to dark grey
 - 3b MIDDLE WELDED TUFF Variably welded felsic ash flows with lapilli, laminated to pumice gradations, single and compound cooling units, cream to maroon
 - 3a LOWER DUST TUFF Aphanitic felsic airfall tuff, strongly coloured cream, grey, olive grey, turquoise, maroon and purple

SYMBOLS

- GEOLOGICAL CONTACT** Defined, approximate, assumed
- BEDDING, TOP KNOWN** Inclined, vertical, overturned
- BEDDING, TOP UNKNOWN** Inclined, vertical
- BEDDING** Compiled from other studies
- FOLD AXIAL TRACE** Syncline, anticline
- Minor folds**
- Lineation**
- FOLIATION** Inclined, vertical
- FOLIATION** Compiled from other studies
- FAULT** Defined, approximate, assumed
- Margins of major dyke swarms**
- Air photo linear, (assumed fault)**
- Fossil locality**
- MINERAL PRODUCER** Past production >10 tonnes (Map 1, Table 1)
- MINERAL OCCURRENCE** Outcropping, blind (Map 2, Table 2)
- Placer workings**
- Topographic contour (100-metre intervals)**
- Surveyed elevation (metres)**
- ROADS** In use, abandoned

* NOTE: COPIED FROM O.F.M. 1987-22 BY ALLDRICK (REF. 2)

MINERAL DEPOSITS, NUMBERED LOC'S

- | | |
|-----------------|--------------------|
| 48 S-1 | 82 SEBAKWE |
| 50 BIG MISSOURI | 87 NORTHERN LIGHTS |
| 53 PROVINCE | 88 B.C. SILVER |
| 76 INDIAN | 121 RIVERSIDE |

STAR-ONE RESOURCES INC.

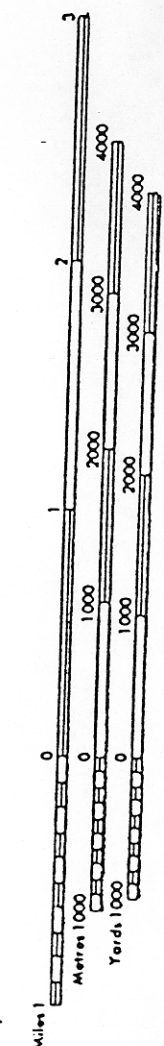
MINERAL HILL PROPERTY
HYDER DISTRICT, AK.

REGIONAL GEOLOGY

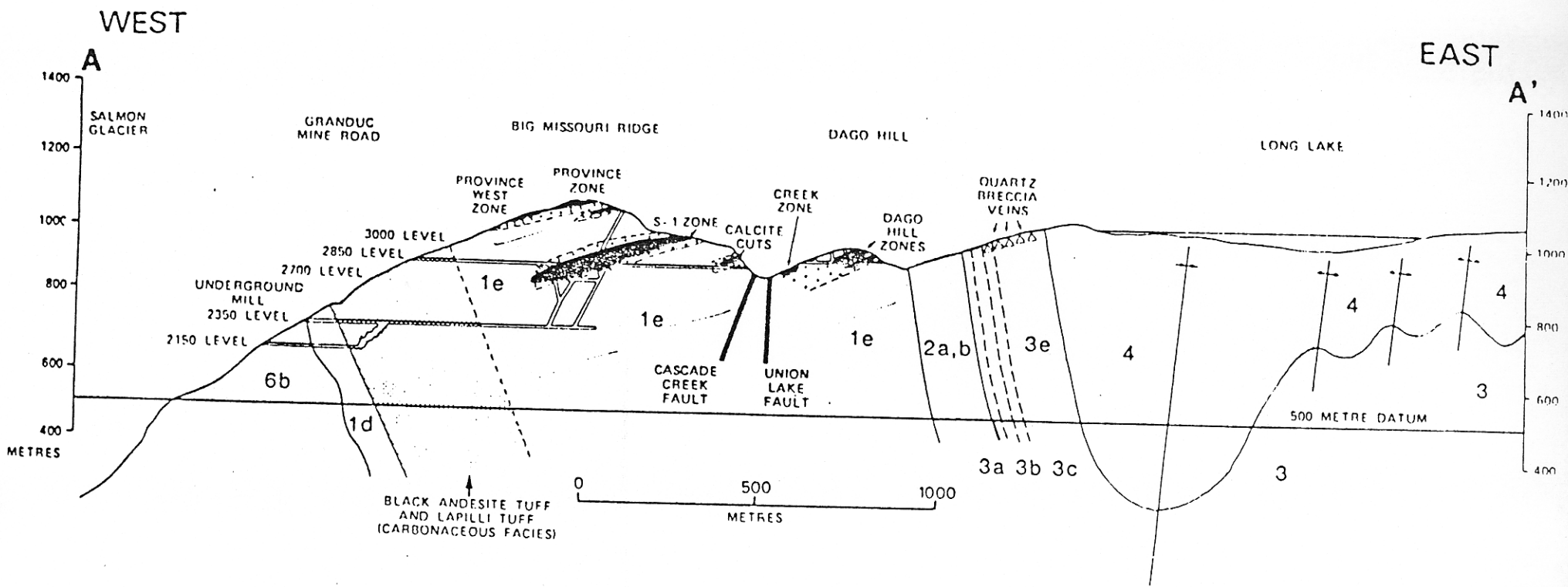
DECEMBER 1988

FIGURE 4

SCALE 1:50 000



W-E CROSS-SECTION THROUGH THE BIG MISSOURI MINE AREA

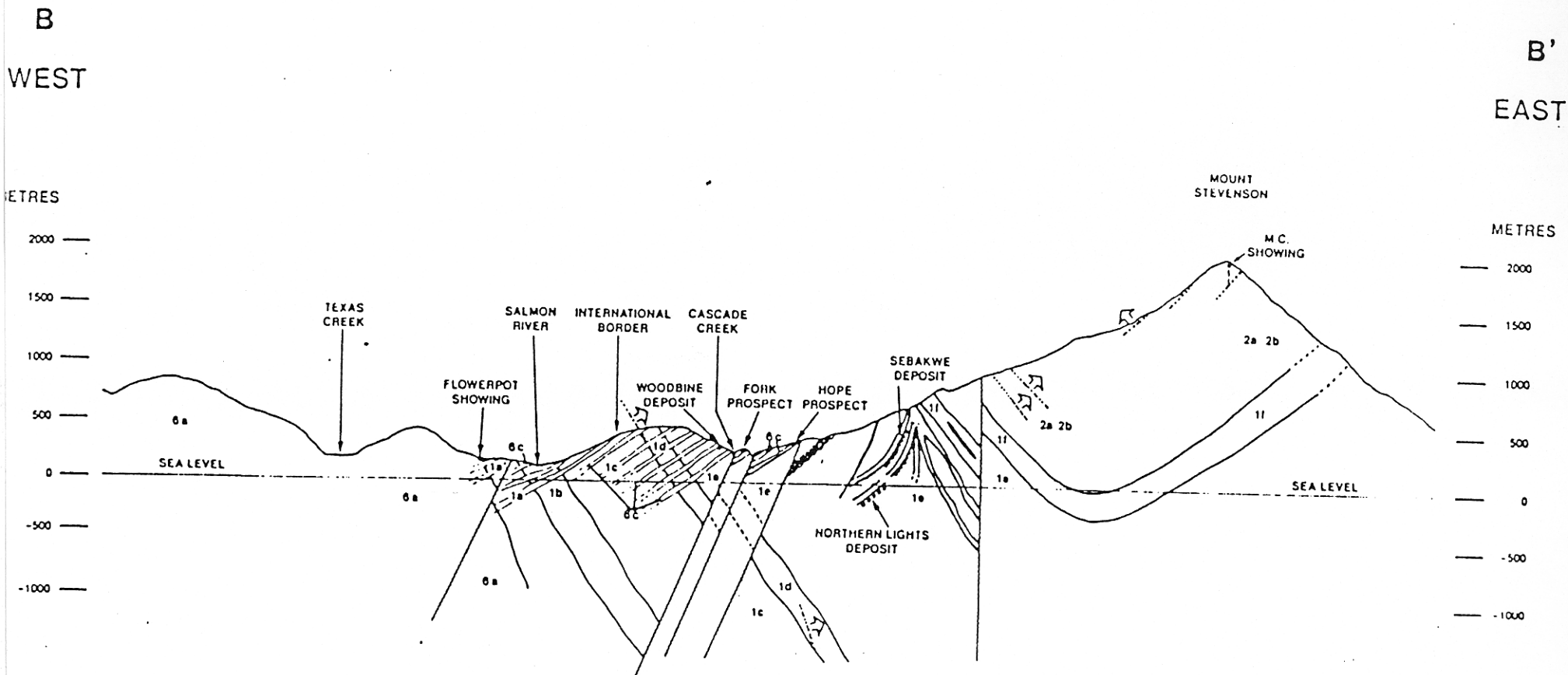


- FAULT
- FOLD AXIS; ANTICLINE, SYNCLINE
- GEOLOGICAL CONTACT; FORMATIONS
- GEOLOGICAL CONTACT; FACIES, MEMBERS
- MINE WORKINGS
- MINERAL DEPOSIT, QUARTZ-CARBONATE BRECCIA VEIN WITH DISSEMINATED TO SEMI-MASSIVE SULFIDES
- ALTERATION HALO, SERICITE, SILICA, QUARTZ VEINING

* NOTE: COPIED FROM O.F.M. 1987-22
BY ALLDRICK (REF. 2)"

STAR-ONE RESOURCES INC.	
MINERAL HILL PROPERTY HYDER DISTRICT, AK.	
DECEMBER 1988	FIGURE 5

W-E CROSS-SECTION THROUGH THE PREMIER MINE AREA



* NOTE: COPIED FROM O.F.M. 1987-22
BY ALLDRICK (REF.2)

STAR-ONE RESOURCES INC.

MINERAL HILL PROPERTY
HYDER DISTRICT, AK.

DECEMBER 1988

FIGURE 6

TOPS
MEASURED DIPS

Bowser Basin. These two formations exhibit complex disharmonic folding in part related to gravity tectonics and Tertiary plutonism. The Hyder Intrusions of the Coast Plutonic Complex and satellite intrusions, all predominantly granitoid, respectively form the western border of the region and occur as isolated intrusives within it.

Two major ore deposits are hosted by the Unuk River Formation, Granduc and the Premier Group, a possible third is the Big Missouri Group. Two small gold deposits, Scottie Gold and Silver Butte, are also present. Details of these and others are listed in Table 3.

The strip of territory, some four miles wide between Hyder and the Big Missouri deposit and which includes the Mineral Hill property, is chiefly underlain by a north-striking andesitic sequence, the Unuk River Formation. The Texas Creek batholith, a granodiorite of Early Jurassic age, intrudes the lower members of the formation and forms the western boundary of the strip. The batholith is the source of a number of dykes. These are orthoclase \pm hornblende porphyritic granodiorite with a fine grained chloritic groundmass. In the border area, the Texas Creek intrusive is dioritic due to contamination by absorption of andesite. The contact zone is highly disturbed exhibiting cataclastic structures and metasomatic alteration. Alldrick (2) shows the andesitic sequence as dipping moderately to the east. Westmin staff (12) propose a westerly dip. A coarse clastic sequence, the Betty Creek Formation, unconformably overlies the andesitics and forms the east boundary of the strip. To the south, the Hyder quartz monzonite, a batholith of Early to Middle Eocene age, intrudes the andesites and terminates about two miles south of the southern boundary of the property. Several Hyder dykes emerge from the intrusive and traverse the andesites. A related quartz monzonite, the Mineral Hill Stock, is present on the west boundary opposite the Premier deposit.

Table 3

ECONOMIC MINERAL DEPOSITS OF THE STEWART MINING CAMP

(From the centre of the property to within about 20 miles, listing from north to south)

Name	Location	Metal Reserves & Grades	Type & Host
Granduc (8)	21 mls NW	1970: 50 M tons @ 1.55% Cu 0.2 oz/t Ag	Concordant massive sulphide. In cataclastic zone within middle member of Unuk River Formation.
Scottie Gold (2)	14 mls N	1981-85: 217,730 t @ 0.48 oz/t Au 0.46 oz/t Ag 1987: 132,300 t @ 0.56 oz/t Au	Irregular siliceous zones contain streams and masses of sulphides (po, py, arseno, cpy) plus Au. In Middle Andesitic tuffs, Unuk River Formation.
Morris Summit (7)	13 mls N	1947: 1500 t @ ?	As above.
Big Missouri Group (Martha Ellen, S-1, Province, Dago Hill) (2)	6.0 - 7.5 mls N	1977: 1,806,800 t @ 0.089 oz/t Au 1.17 oz/t Ag	Disseminated to locally minor massive sulphides (py, sph, gal) occur in cherty andesitic tuffs and cross-cutting Q-carbonate veins. Deposits are stratabound. In Upper Andesitic Tuff, Unuk River Formation.
Big Missouri (2)	6.5 mls N	1938-42: 847,600 t @ 0.069 oz/t Au 0.06 oz/t Ag	As above.
Indian (2)	3.75 mls N	1925 & 1952: 14,187 t @ 0.089 oz/t Au 3.5 oz/t Ag 4.4% Pb 5.5% Zn	Sulphides occur as irregular pods in irregular fissure type Q veins within north striking fault. Host is K-feldspar porphyry and andesitic cataclastics. In Upper Andesite Tuff, Unuk River Formation
Silver Butte (Tenajohn Silver Corp.)	5.5 mls N	1988: Underground development in progress	Siliceous zones contain sulphide bodies (po, py, cpy) plus Au. In Upper Andesite Tuffs of Unuk River Formation.
Premier Group (Sebakwe, Northern Lights, B.C.Silver, Premier, Premier Border) (2)	2.0 - 3.0 mls N	1919-53, 4,714,270 @ 0.379 oz/t Au 1959-68: 8.0 oz/t Ag 0.7% Pb 0.2% Zn	Silica K-feldspar carbonate sulphide vein and breccia zones and footwall stockworks occur in irregular intrusive K-feldspar plagioclase amphibole dacite (Premier Porphyry). Some concordant(?) lenses of semi-massive sulphides occur. In Upper Andesite Tuff, Unuk River Formation. Premier porphyry may be contemporary with UAT.
Premier (2)	2.0 mls N	1987: 6,380,200 t @ 0.069 oz/t Au 2.69 oz/t Ag	As for Premier Group. Developed from lower grade area surrounding Premier "glory hole".
Riverside (2)	2.0 mls SW	1925,1927 29,140 t @ 0.084 oz/t Au 1941-50: 3.0 oz/t Ag 3.9% Pb 0.12% W ₃	Sulphides and scheelite occur as shoots in three Q-fissure veins. Host is Texas Creek intrusive and internal mylonites.
Dunwell (7)	6.0 mls ESE	1926-41: 50,387 t @ 0.12 oz/t Au 6.5 oz/t Ag plus values in Cu, Pb & Zn	Quartz-calcite breccia fissure veins with isolated pods of sulphides. Veins in zone of faulting confined to graphitic siltstones of Salmon River Formation.
Portland Canal (Gypsy, Little Joe, Lucky Seven, (7)	6.0 mls ESE	1911-12: 9,000 t @ 0.07 oz/t Au 2.9 oz/t Ag plus values in Pb	Flat-lying sulphide pods in quartz-breccia vein which averaged 8 ft. wide. In highly disturbed thin-bedded graphitic siltstones of Salmon River Formation.
Porter Idaho (7)	10.7 mls SSE	1924-31: 5,256 t @ 0.05 oz/t Au 107.2 oz/t Ag plus values in Pb, Cu	Narrow sinuous quartz fissure zones in shear and breccia zones. Oreshoots are steeply plunging sulphide zones apparently restricted to slight vein flexures. In volcanics and sediments of Unuk River Formation.
Prosperity (7)	10.7 mls SSE	1926-39: 26,628 t @ 0.02 oz/t Au 66.3 oz/t Ag plus values in Pb, Zn & Cu	As above.

**PROPERTY GEOLOGY, MINERALIZATION,
PROSPECTS AND CONDUCTORS**

Figures 7A and 7B show property geology, location of the prospects, EM conductors located by the airborne survey and control grids. The geology, geophysics, and soil geochemistry of these are discussed herein. Progression is from south to north as was followed in the field.

There is considerable warping of the rocks due to folding and faulting. The detailed geology of the property is not well known. Three pronounced south-southwest striking lineaments traverse the property. These are the Fish Creek, Skookum Creek and Cascade Creek fault lines. Alldrick (2) shows minor offsets along the first two and a sinistral displacement in plan of one mile along the latter.

Table 4 lists those members of the Unuk River Formation which underlie the property, approximate thickness, as determined by Alldrick (2), and tentatively prospects hosted by each member.

Table 4
MEMBERS OF UNUK RIVER FORMATION WHICH UNDERLIE PROSPECTS

Member	Possible Thickness (ft)	Rock Types Recognized	Prospects Hosted
Upper Andesite Tuffs	5200	In dyke of Texas Creek granodiorite. Intrudes carbonaceous andesitic tuffs and andesitic flows and fragmentals (Sheinberg, 15)	Stoner
		In andesitic rocks (Buddington, 4)	Stoner-Clegg-O'Rourke
Upper Siltstone Member	500	Andesitic rocks and intercalated slates (Buddington, 4)	Titan
		Argillite (overlain by massive calcareous argillite)	Upper Daly-Alaska, upper adit
		Andesitic rocks	Premier-Alaska
		Slate and greywacke (Buddington, 4)	Border

Member	Possible Thickness (ft)	Rock Types Recognized	Prospects Hosted
Middle Andesite Tuffs	2600	Andesitic pyroclastics	Shasta (Schaft Cr.)
		Andesitic pyroclastics	Nos. 1 to 4 Iron
		Andesitic rocks and dyke of Texas Creek batholith (Buddington, 4)	Hyder Skookum
		Within dyke of Texas Creek granodiorite which intrudes andesitic volcanoclastics. (Buddington, 4 and Sheinberg, 15)	Titan
		Andesitic rocks are intruded by dykes from Texas Creek and later Hyder batholiths. (Westgate in Buddington, 4)	Lower Daly-Alaska
		Andesitic rocks (Buddington, 4)	Virginia
Lower Siltstone Member	800	Argillite (underlain by black graphitic shale)	Hobo

MW-3

This conductor was located only approximately. It is close to or possibly on the Canadian side of the international border. If in Alaska, claims P0 113 and 114 probably cover the northern part of the conductor. No work was done.

Roanan

No work done during 1988. Previous work consists of trenching, underground work, sampling, mapping and diamond drilling. Data from this work is not available.

Work has been focused on quartz filled fissures along a fault in Texas Creek intrusive which here is dioritic. Vein strikes at 300° and average dip is around 60° . Total length exposed is about 400 feet and vertical extent 100 feet. Width varies up to six feet. Sulphide mineralization is irregular and consists of pyrite, chalcopyrite, galena, tetrahedrite, sphalerite, and rare free gold.

Pulsar is reported to have obtained samples returning up to an ounce of gold and 35 to 40 ounces of silver, however distribution of these is believed to be erratic.

Sulphide Creek Area Figure 8

This creek, a minor tributary of Skookum Creek, contains many sulphide-rich boulders, one of which assayed 0.231 oz/t gold. Several small outcrops of massive sulphides comprising pyrrhotite and pyrite occur over a distance of 700 feet between the Shasta and No. 1 Iron prospects. The Crone EM survey located three conductors near the creek. The area is underlain by andesites which show a northeast-southwest lineation but no recognizable bedding. The airborne survey did not record any conductors in the area.

No. 1 Iron Figure 8

Here, in a small area along the south bank of Sulphide Creek, stripping and minor blasting has exposed iron stained andesitic rocks, including

augite crystal tuff. Pyrrhotite, pyrite and minor chalcopyrite occur at two locations as small (less than two feet in maximum dimension) masses in and along fractures. Results of surface sampling are as follows:

Sample No.	Year	Dimensions (ft)	Au oz/t	Ag oz/t	Cu ppm	Pb ppm	Zn ppm	Comments
10644	1988	2x3 ins	0.595	-	-	-	-	Chip along fracture, graphite present
10645	"	1x2	0.015	-	-	-	-	Chip

Sampling by W. Thompson:

Z-1-1	1987	18	0.002	1.62	-	-	-	Grab along creek
Z-1-2	"	2	0.016	0.20	-	-	-	Chip
Z-1-3	"	grab	0.006	0.11	-	-	-	Grab
Z-1-4	"	9	0.006	0.15	-	-	-	Chip
30041C		2.5	0.004	0.26	147	90	52	Sampled by Pulsar; precise locations unknown. Assay certificates not available.
30042C		10	0.001	0.04	78	25	101	
30043C		10	0.008	0.07	148	30	93	
30044C		10	0.021	0.13	350	10	107	
30045C		6	0.020	0.13	550	25	111	
30046C		7	<0.001	0.07	133	6	100	
30047C		7	0.033	0.09	940	5	115	
30048C		9	0.022	0.03	85	1	69	
30049C		7	0.003	0.05	268	1	62	"
30050C		7	0.036	0.25	1530	58	222	"

Results of the Crone EM survey indicate the presence of a moderate-conductor in the area.

Drill hole 88-⁵3 (Figure 9) was directed at fracture mineralization striking southeast which returned the highest gold assays and, hopefully, towards the EM conductor. The hole intersected andesite throughout which locally showed fragments up to several inches long. Composition of matrix and fragments is not generally evident in hand specimens, where it is, augite crystal tuff was identified. Highest gold value obtained in core was 0.11 oz/ton over 3.5 feet. Maximum sulphide content occurs at base of hole.

Shasta Figure 10

The prospect occurs just below treeline at the head of Sulphide Creek. It is marked by a prominent stripped area of gossan, some 20 by 30 feet in dimension, situated in a small hollow in the hillside. Pyrrhotite, quartz, pyrite, and minor chalcopyrite compose a possibly gently dipping, largely fault bounded massive sulphide body of a thickness approaching ten feet. A narrow apophysis branches off to the northwest. Host is an andesitic fragmental in which augite crystal tuff occurs. Kretschmar (10) interprets host as an altered granodiorite. An intrusive of dioritic composition is present 30 feet north of the sulphide body. Surface samples returned significant values in gold, minor silver and some copper. The host andesitic fragmental lies within a re-entrant of andesitic rocks which is surrounded on three sides by the Texas Creek intrusive. Hybrid phases, dioritic in composition occur, and separation of rock types is often arbitrary. A possible mylonite zone exposed in a scarp on the northwest side of Sulphide Creek is believed to be part of the Skookum Creek fault zone. This passes approximately 300 feet west of the prospect.

The Crone EM survey on line 34+00E passed within about 150 feet of the prospect. No conductors were located in the area though the IP survey registered a slight increase in chargeability. The latter parameter may reflect grossly the general outline of the intruded volcanics.

Two holes were drilled. DH 88-S1 (Figure 11) was directed due east under the massive sulphide body. A possible dip extension of this body was intersected between 24.5 and 40 feet. Highest gold value was 0.004 oz/ton over five feet. DH 88-S2 (Figure 12) was directed to intersect the three foot wide sulphide band branching off to the northwest from the main sulphide body. It is doubtful that this band was intersected and it may be faulted out. Highest gold value obtained was 0.004 oz/ton between 86.1 and 92.6 feet.

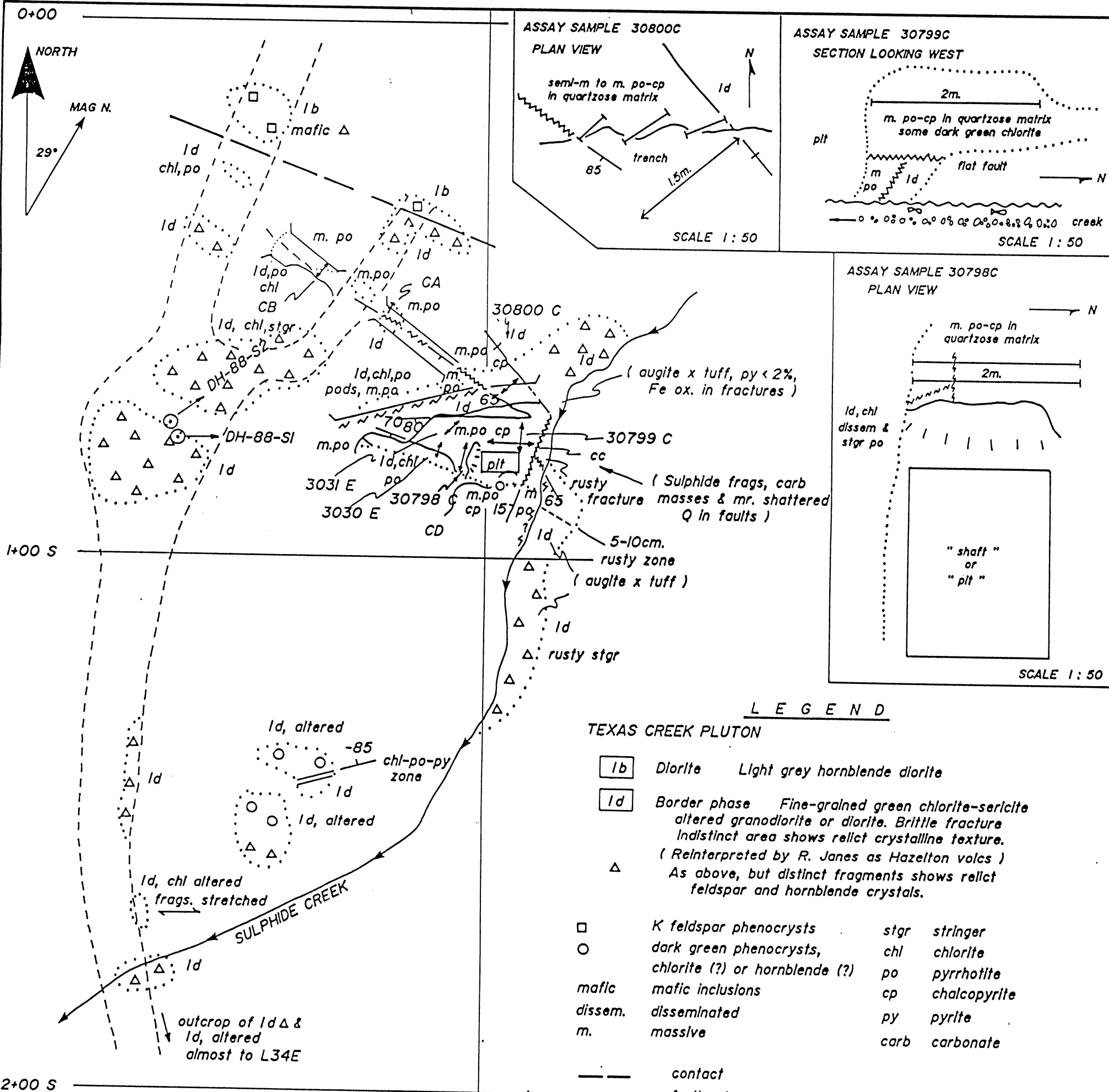
No. 4 Iron Figure 8

This is situated between 900 and 1100 feet north-northeast of the Shasta Prospect within the contact or hybrid zone of the Texas Creek intrusive. Rock types exposed are dioritic in composition, an altered fine grained hornblende porphyry and an intrusive with or without included fragments of andesitic composition. Bands of massive sulphide composed of pyrrhotite, quartz, pyrite, and chalcopyrite occur along fractures and replace walls, quartz veins are also present. Best sulphides exposed in rock cuts occur along a fracture striking 94° . Results of surface sampling are as follows:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu %
1988 - Sampling by R. Janes				
10652	Chip, 3	0.024	-	0.14
10653	Chip, 5	0.215	-	0.08
10654	Select, muck	0.045	-	0.11
10655	Select, muck	0.005	-	0.12
10656	Select, muck	0.045	-	0.17

Sample No.	Width (ft.)	Au ppb	Ag ppm	Cu ppm	Hg ppm
1987 - Sampling by W. Thompson					
V-4-1	1	360	7.0	645	30
V-4-2	6	780	6.7	785	30
V-4-3	1	720	4.3	575	5
V-4-4	9	1050	8.2	510	15

Neither geophysical survey showed a significant response within this area.

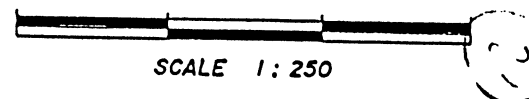


- LEGEND**
- TEXAS CREEK PLUTON**
- lb Diorite Light grey hornblende diorite
 - ld Border phase Fine-grained green chlorite-sericite altered granodiorite or diorite. Brittle fracture Indistinct area shows relict crystalline texture. (Reinterpreted by R. Janes as Hazelton volcs)
 - Δ As above, but distinct fragments shows relict feldspar and hornblende crystals.
 - K feldspar phenocrysts
 - dark green phenocrysts, chlorite (?) or hornblende (?)
 - mafic mafic inclusions
 - dissem. disseminated
 - m. massive
 - stgr stringer
 - chl chlorite
 - po pyrrhotite
 - cp chalcopyrite
 - py pyrite
 - carb carbonate
 - contact
 - ~ ~ ~ fault - known, assumed
 - strike & dip
 - strike & dip of foliation

SAMPLE DETAILS

SAMPLE no.	WIDTH ft.	Au oz/T	Ag oz/T	Cu %	Pb %	Zn %	WO ₃ %	Mo %
BY D. KRETSCHMAR (1981)								
30798 C	6.6	0.278	0.54	0.70	<0.01	0.02	0.02	<0.001
30799 C	6.6	0.210	1.50	2.40	<0.01	0.05	<0.01	<0.001
30800 C	4.9	0.288	1.90	1.71	0.07	0.06	<0.01	<0.001
BY CHOMACK (1984 ?)								
CA	3.3	0.106	0.55					
CB	4.9	0.042	0.24					
CC	9.8	0.256	1.34					
CD	GRAB	0.350	1.15					
3030 E	6.6	0.016	0.08	ppm 635	ppm 2	ppm 90	—	—
3031 E	7.9	0.100	0.73	>10,000	6	180	—	—

* NOTE : ASSAY CERTIFICATES FOR THE ABOVE ARE NOT AVAILABLE.



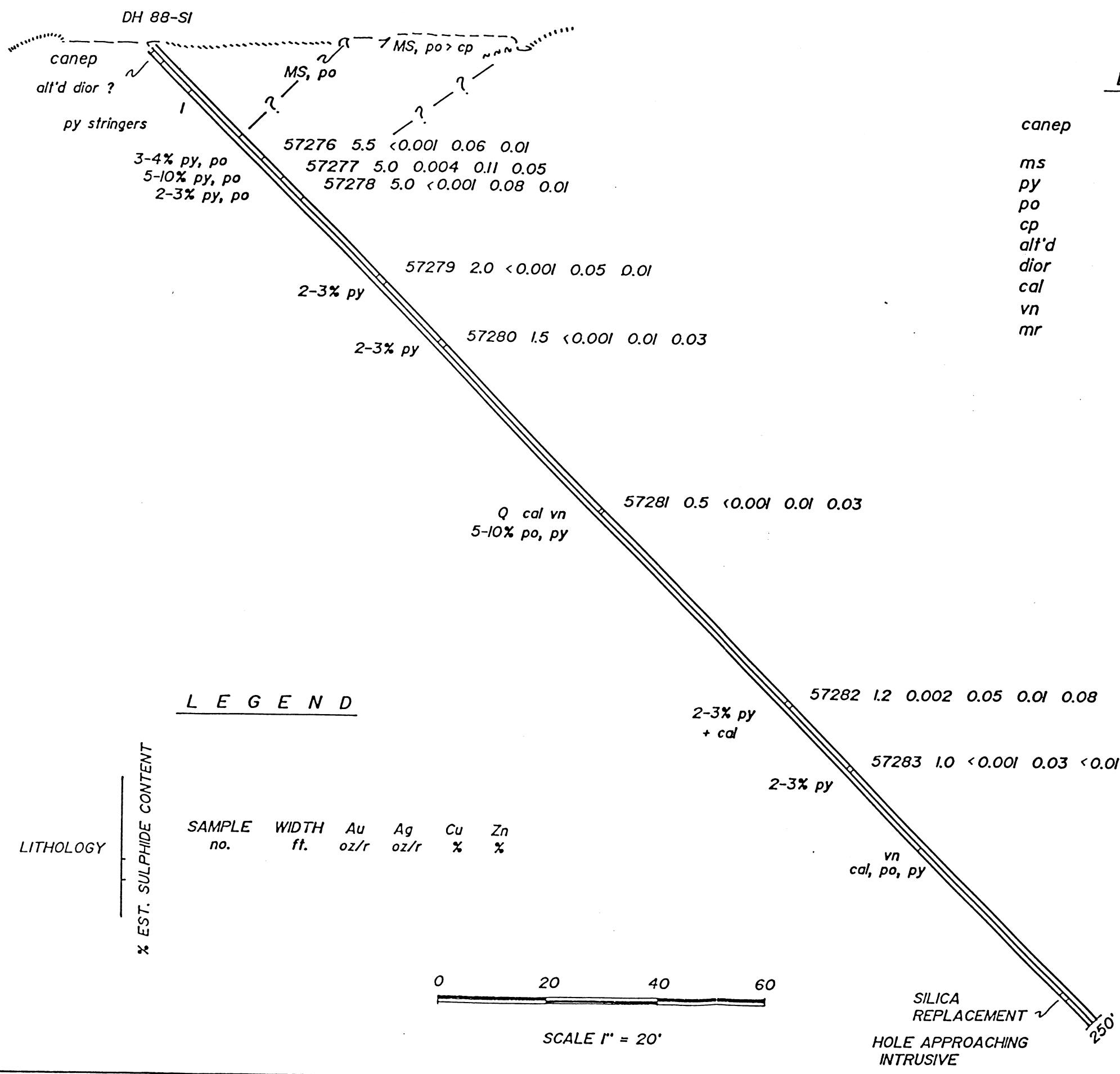
STAR-ONE RESOURCES LTD.

MINERAL HILL PROPERTY
HYDER DISTRICT, ALASKA

GEOLOGY & ASSAY SAMPLES OF
SHASTA PROSPECT

GEOLOGY BY D. KRETSCHMAR

DATE DEC 1988 FIG. 10



LEGEND

- canep calcareous epiclastic derived from andesitic provenance or andesitic pyroclastic
- ms massive sulphide
- py pyrite
- po pyrrhotite
- cp chalcopyrite
- alt'd altered
- dior diorite
- cal calcite
- vn vein
- mr minor

LEGEND

LITHOLOGY	SAMPLE no.	WIDTH ft.	% EST. SULPHIDE CONTENT			
			Au oz/r	Ag oz/r	Cu %	Zn %
canep	57276	5.5	<0.001	0.06	0.01	
alt'd dior?	57277	5.0	0.004	0.11	0.05	
py stringers	57278	5.0	<0.001	0.08	0.01	
	57279	2.0	<0.001	0.05	0.01	
	57280	1.5	<0.001	0.01	0.03	
	57281	0.5	<0.001	0.01	0.03	
	57282	1.2	0.002	0.05	0.01	0.08
	57283	1.0	<0.001	0.03	<0.01	



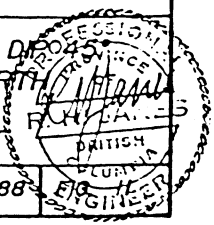
SCALE 1" = 20'

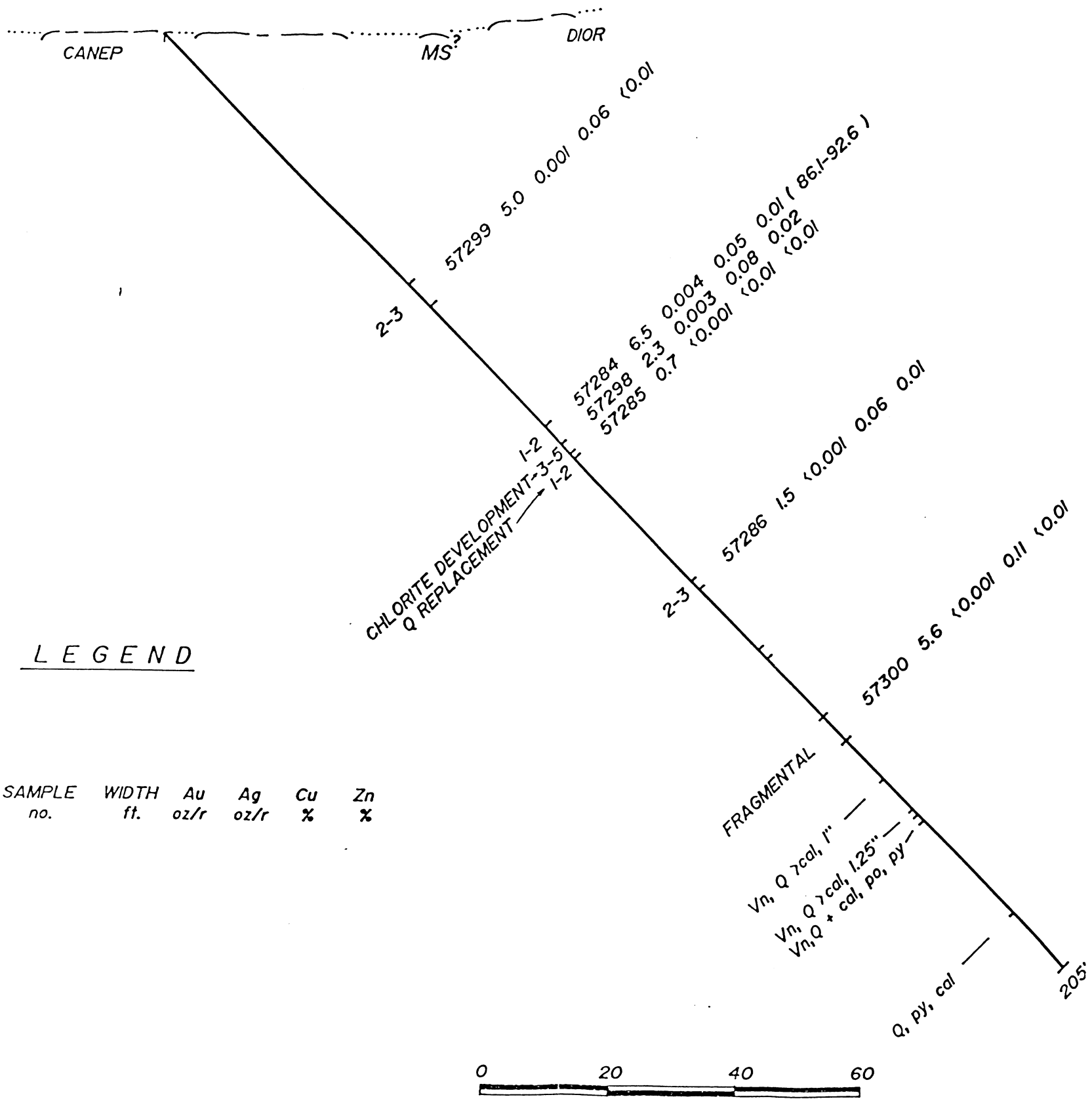
STAR-ONE RESOURCES LTD.

MINERAL HILL PROPERTY
HYDER DISTRICT, ALASKA

DH 88-SI, BEARING 90°, DIP 25° S
SECTION LOOKING NORTH
0+78S, 0+61W
SHASTA PROSPECT

GEOLOGY: R.H. JANES SEPT 1988





LEGEND

- canep calcareous epiclastic derived from andesitic provenance or andesitic pyroclastic
- ms massive sulphide
- py pyrite
- po pyrrhotite
- cp chalcopyrite
- alt'd altered
- dior diorite
- cal calcite
- vn vein
- mr minor

LEGEND

SAMPLE no.	WIDTH ft.	Au oz/r	Ag oz/r	Cu %	Zn %
------------	-----------	---------	---------	------	------

LITHOLOGY

% EST. SULPHIDE CONTENT



SCALE 1" = 20'

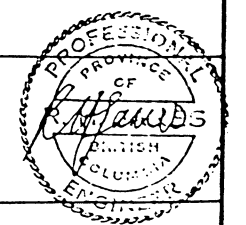
BDS/KM

STAR-ONE RESOURCES INC.

SHASTA PROSPECT

DH 88-S2
SECTION - LOOKING WEST
O+75S, O+6IW
BEARING 15°, DIP 45°

MINERAL HILL PROPERTY
HYDER DISTRICT, ALASKA



GEOLOGY BY R H JANES

SEPTEMBER 1988

FIG. 12

No. 2 Iron Figure 8

Prospect is located 2000 feet north-northeast of the Shasta Prospect on the east side of the 4x4 access road. It consists of a number of cuts across a sulphide bearing fracture zone which trace it for 220 feet. The fracture zone traverses andesites, strikes northwest, dips steeply southwest, is up to 42 inches wide, and carries discontinuous quartz masses and sulphide pods, the later replacing country rock. Sulphides are pyrrhotite, pyrite and much less chalcopyrite. Weak disseminations of these continue into the wallrocks. Results of sampling follow:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu %
1988 10681	Chip	0.227	-	0.55

Sample No.	Width (ft.)	Au ppb	Ag ppm	Cu ppm	Hg ppm
1987 - Sampling by W. Thompson					
V-1-1	2.7	4100	18.0	1250	10
V-1-2	2.7	120	0.7	97	5
V-1-3	2.7	500	1.9	410	10
V-1-4	1.3	70	0.5	166	<5
V-1-5	2.5	4100	11.0	2400	5
V-1-6	2.0	6600	32.0	4500	30

Samples run from
NW to SE.
Assay certs. in
Thompson's
report (17).
"

Sample No.	Width (ft.)	Au ppb	Ag ppm	Cu ppm	Hg ppm	Zn ppm
1984(?) - Sampling by B. Chomack, Pulsar						
3055E	2.7	0.191	0.42	1830	143	315
3056E	3.9	0.015	0.05	105	17	144
3057E	5.7	0.001	0.03	115	30	147
3058E	4.2	0.002	0.04	90	58	241
3059E	2.9	0.234	0.45	2250	90	320
3060E	3.1	0.003	0.05	318	8	110
3061E	2.3	0.001	0.05	135	2	88

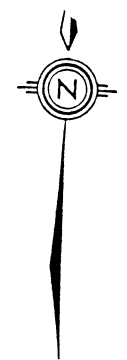
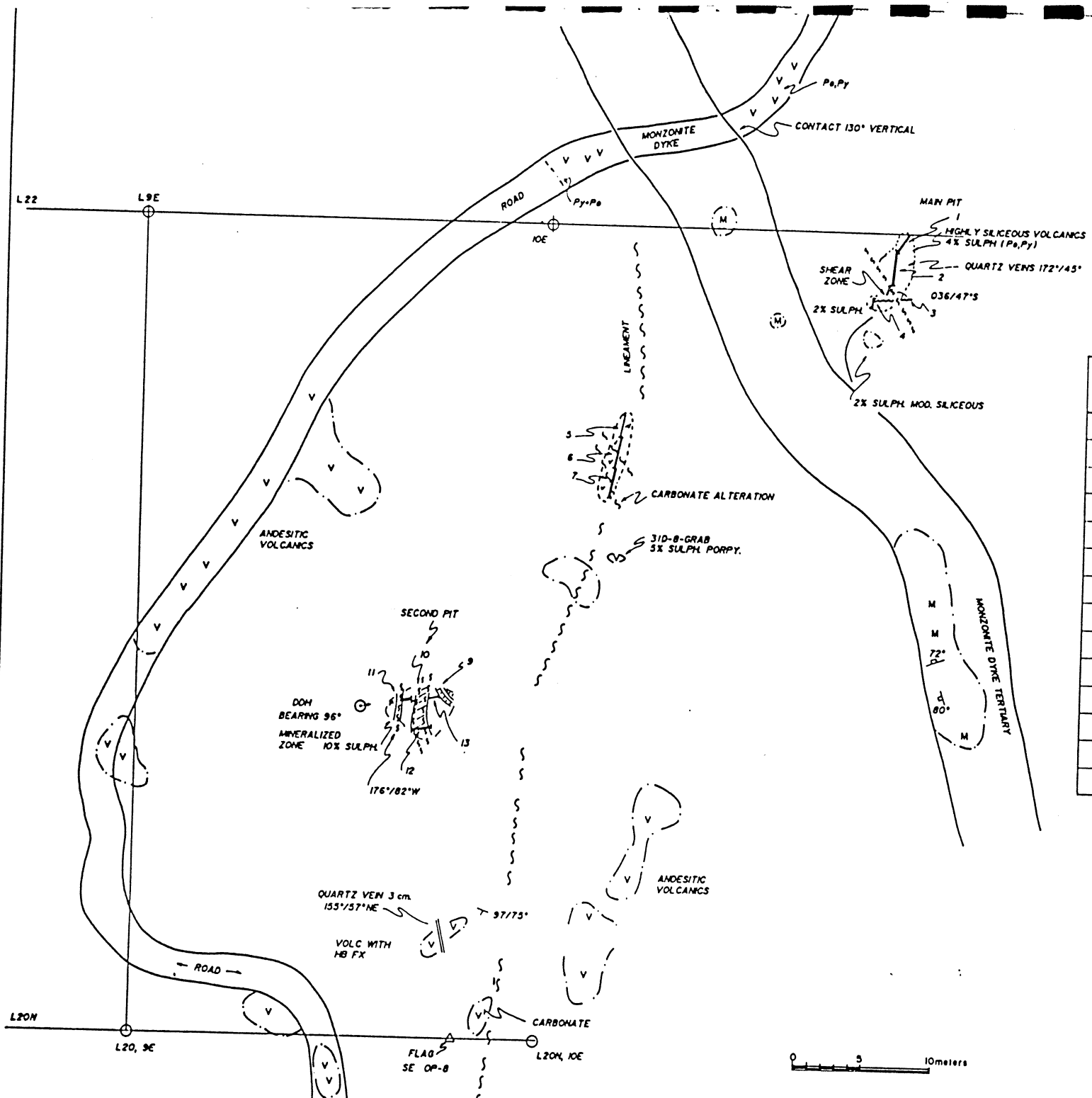
Samples run from
NW to SE.
Copies of assay
certificates in
Thompson's
report (17).
"

Sample No.	Width (ft.)	Au ppb	Ag ppm	Cu ppm	Hg ppm	Zn ppm	
(continued)							
3062E	2.6	0.014	0.07	138	30	210	Samples run from NW to SE. Copies of assay certificates in Thompson's report (17). " " " " " " " " " " " "
3063E	-	0.008	0.09	410	10	90	
3064E	4.8	0.021	0.32	2300	17	97	
3065E	5.6	0.002	0.07	240	63	176	
3066E	5.4	0.001	0.03	115	4	60	
3067E	5.1	0.060	0.36	2600	30	232	
3068E	6.2	0.086	0.29	1200	18	162	
3069E	6.9	0.132	0.55	3300	20	160	
3070E	3.8	0.003	0.05	145	2	116	
3071E	3.6	0.022	0.14	500	15	128	
3072E	4.6	0.114	0.52	3330	40	195	
3073E	5.6	0.004	0.09	112	128	190	
3074E	3.3	0.004	0.15	368	315	500	
3075E	-	0.165	0.49	5000	125	205	

The plot of the Crone EM survey shows a "good one line" conductor approximately 100 feet to the northeast. This distance may be within a plotting error.

No. 3 Iron Figure 13

The centre of this prospect is approximately 400 feet north of No. 2 Iron. Stripping and several rock cuts have exposed pyrrhotite-pyrite fracture mineralization and minor quartz veining in andesites. Carbonate alteration and silicification are present. Sampling by Chomack returned low values, highest was 0.086 oz/ton Au over 8.4 feet. A drillhole location appears on the map but data on this is not available. A Hyder monzonite dyke traverses the area. The prospect lies within a strong northwest trending IP chargeability high.



SAMPLE N°	WIDTH		Ag oz/Ton	Au oz/Ton
	metres	feet		
31D 1 3041 E	1.35	4.4	0.02	0.002
2 3042 E	1.65	5.4	0.03	0.002
3 3043 E	1.05	3.4	0.03	0.002
4 3044 E	0.95	3.1	0.04	0.002
5 3045 E	2.25	7.4	0.05	0.005
6 3046 E	2.60	8.5	0.04	0.002
7 3047 E	2.55	8.4	0.09	0.086
8 3048 E	GRAB	-	0.06	0.008
9 3049 E	0.70	2.3	0.05	0.004
10 3050 E	1.05	3.4	0.11	0.002
11 3051 E	1.0	3.3	0.03	0.002
12 3052 E	1.25	4.1	0.11	0.004
13 3053 E	1.05	3.4	0.03	0.002
14 3054 E	GRAB	-	0.03	0.004

STAR ONE RESOURCES INC.

N°3 IRON PROSPECT

GEOLOGY & SAMPLING

MINERAL HILL PROPERTY

BRITISH COLUMBIA ENGINEER

Titan Figure 14

Exxon Minerals Company mapped and sampled the workings in 1983. Figure 14 is a copy of their map presented for assessment work. Buddington (4) describes a fissure zone of quartz stringers which strikes 120° to 130° , dips 45° southwest and follows a dyke of Texas Creek porphyritic granodiorite. The zone has been followed on surface for 750 feet, is up to ten feet wide and contains several quartz stringers seldom more than a foot wide. The quartz contains disseminated sphalerite, galena, and chalcopyrite. The host granodiorite is impregnated with pyrite.

Results of surface sampling are:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu %	Pb %	Zn %
------------	-------------	---------	---------	------	------	------

1983 - by Exxon

H52074	9(?)	0.047	0.245	0.01	0.26	0.47
H52075	4	0.213	0.340	0.01	0.20	0.22

See Figure 14
"

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu ppm	Hg ppm	Zn ppm
------------	-------------	---------	---------	--------	--------	--------

1987 - by Pulsar

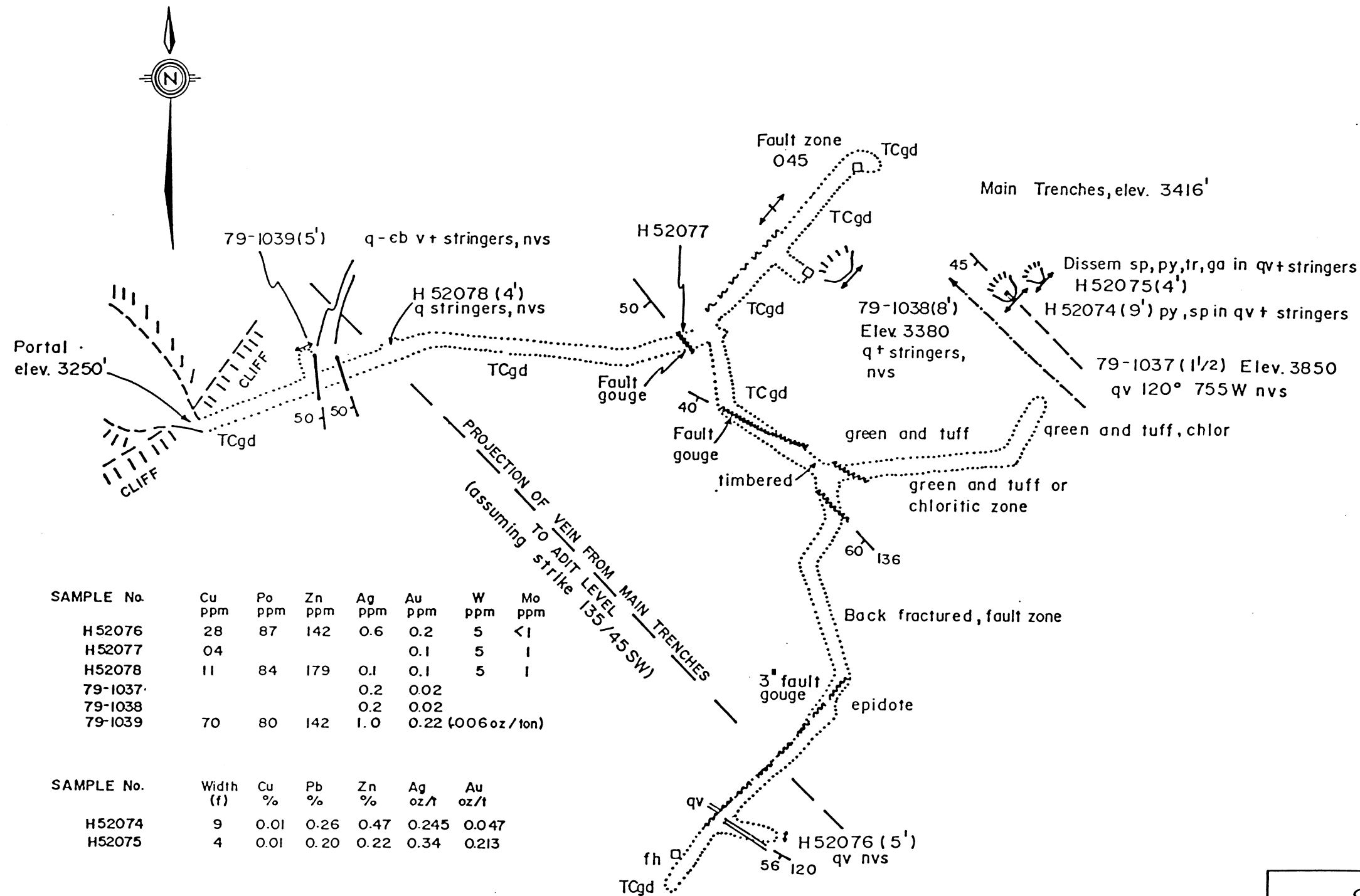
3038E	Select grab	0.005	0.11	56	48	58
3039E	Select grab	0.341	0.51	500	4700	>10,000
3040E	Select grab	0.225	0.58	650	5000	>10,000

Adit dump.
Float above adit.
Float in trench above adit.

Copy of assay certificate for Pulsar samples is in Thompson's report (17). B. Sheinberg (15) of Exxon concluded that the mineralization intersected underground was less spectacular than at surface and appeared to be pinching out.

LEGEND:

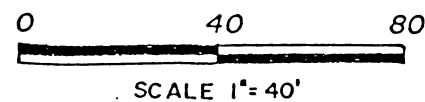
- TCgd Texas Creek granodiorite
- nvs no visible sulphides
- sp sphalerite
- py pyrite
- ga galena
- q quartz
- cb carbonate
- o orthoclase
- f feldspar
- h horblende
- phenocryst
- v vein
- tr trace
- and andesite



SAMPLE No.	Cu ppm	Po ppm	Zn ppm	Ag ppm	Au ppm	W ppm	Mo ppm
H 52076	28	87	142	0.6	0.2	5	<1
H 52077	04				0.1	5	1
H 52078	11	84	179	0.1	0.1	5	1
79-1037				0.2	0.02		
79-1038				0.2	0.02		
79-1039	70	80	142	1.0	0.22	(006 oz/ton)	

SAMPLE No.	Width (f)	Cu %	Pb %	Zn %	Ag oz/t	Au oz/t
H 52074	9	0.01	0.26	0.47	0.245	0.047
H 52075	4	0.01	0.20	0.22	0.34	0.213

Note
Copy of map by Exxon Minerals Corp.
geology by B. Scheinberg, August 1983



STAR-ONE RESOURCES INC.

MINERAL HILL PROPERTY
HYDER DISTRICT, AK

TITAN ADIT
GEOLOGY & SAMPLING

GEOLOGY BY: B. SCHEINBERG DATE: DECEMBER, 1988 FIGURE 14

Hyder Skookum

Prospect location is approximately 2000 feet northwest of No. 3 Iron and west of the Shasta grid. It was not visited in 1987 or 1988. Buddington (4) describes two showings. Two strongly defined parallel quartz veins striking northwest and dipping steeply to the south are present. Both veins are hosted by andesitic rocks. The southern vein also traverses a porphyry dyke belonging to the Texas Creek batholith. Locally fragments of country rock in the veins are impregnated with pyrite. Veins are up to seven feet wide and carry a little calcite.

The other showing consists of a cut in a sulphide replacement deposit within a schistose zone in andesitic rocks. The sulphides occur as masses and seams and disseminated in a quartz vein present within the zone. Pyrrhotite associated with small amounts of chalcopyrite and arsenopyrite occur.

Zebra Veins

These are located within the Shasta grid approximately 1000 feet east of Skookum Lake (source of Skookum Creek). No work was done on these in 1988. A description by Thompson follows:

"The Zebra vein or veins consist of bull quartz/carbonate veins that are intermittent over several hundred feet generally striking 153-178⁰ and dipping 80-85⁰E. Sulphides occur within the veins as pyrite in lumps and disseminations. The host is an andesitic volcanic unit, and the veins appear to be sweated out as opposed to being injected."

Results of sampling done by Pulsar in 1984 follow:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu %	Pb %	Zn %	
3102E	3.9	0.002	0.05	82	17	94	Copies of assay certificates in Thompson's report (17). " "
3103E	3.1	<0.002	0.05	58	28	105	
3104E	4.9	0.002	0.05	70	30	86	
3105E	6.6	<0.002	0.03	22	8	93	
3106E	3.3	<0.002	0.24	455	59	280	
3107E	3.3	<0.002	0.23	>10,000	95	670	

Kline

This is located approximately 1000 feet north-northeast of the north end of Skookum Lake, or about 800 feet north of L49+00N on the Shasta grid. No work was done on this in 1988. A description by Thompson follows:

"The adit is small, measuring 3.0 metres long and about 1.5 m in height and width. It is located in an area of anomalous soil geochemistry (Cu, Pb, and Zn) done by Dolmage Campbell and Associates.

The mineralized zone consists of up to 2% pyrite in blebs and disseminations over an area of 20 m by 0.5 m. The host rocks are andesitic volcanics that have veinlets and blebs of carbonate adjacent to the adit."

Results of samples taken in the tunnel by Pulsar during 1984 follow:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Cu ppm	Pg ppm	Zn ppm	
3076E	4.7	0.002	0.07	100	53	245	Copy of assay certificate is in Thompson's report (17).
3077E	6.3	0.002	0.06	88	95	360	
3078E	4.7	<0.002	0.07	105	170	500	
3079E	-	<0.002	0.09	78	100	180	

MW-4, -5 & -6

A reconnaissance visit to the locations of EM conductors MW-4 and -5 disclosed these are more or less coincident with part of the deeply incised Fish Creek feature, the surface expression of the Fish Creek fault. A quartz vein trending along the structure occurs about 1000 feet north of MW-5 and was the only mineralization seen. The location of MW-6 was not visited. The Titan lies approximately 100 feet south of MW-4. It seems unlikely that this conductor is related to the Titan structure since the latter strikes at 120° to 130° .

Hobo & EM Conductors MW-7 Figure 15

Prospect is located approximately 2500 feet west-northwest of Skookum Lake on a steep north facing hillside. A group of airborne EM conductors is present in the area. The grid covering the probable area of the conductors has not been located with respect to the property boundary. Some or all of it may be outside the property. Early work concentrated on mineralized fracture zones exposed in a north flowing creek. Two short adits, 17 and 20 feet long respectively, were driven on one zone at a branch in the creek. A lower tunnel, 230 feet long, was driven south to intersect the aforementioned and two other zones. Limited mapping of the prospect determined that it is underlain by argillaceous andesitic tuff or argillite derived from andesitic rocks. Angular fragments of a similar character and up to 24 inches long were observed in one outcrop. Bedding was not recognized. An east-west to west-northwest striking fracture cleavage with steep dips is present. Silicification and sulphide mineralization occur in certain zones where fracturing parallel to the cleavage direction has occurred. The zones observed are narrow, generally up to five feet wide and characterized by the presence of disseminated pyrite. Silicification, occasional minor quartz veining,

and sulphides as pods and stringers may occur within these zones. Sulphides present are pyrite with less sphalerite and very minor galena. Surface sampling returned low values for base and precious metals. The main adit is in argillite which contains several percent pyrite for the first one hundred feet. Sphalerite was observed at the portal but not elsewhere. The adit terminates where a network of calcite veins is dislocated by faulting. This is under the creek and the adit face and back are making water. A small dyke or sill from the Texas Creek batholith is exposed west of the main adit dump.

- = Some 650 feet west of the prospect another north flowing creek has exposed graphitic and grey shales over about one hundred feet. If more extensive, the graphitic shale is tentatively concluded to be the conductor recognized by the airborne survey. A fault may separate the argillite and shales.

East Daly (MW-9 & -11) and MW-10 Figure 16

These grids were established to investigate the sources of EM conductors MW-9 and -11 and MW-10 respectively recorded by the airborne survey. The grids were soil sampled but not mapped. A traverse up Daly Creek to the continuation of line 8+00W did not disclose the presence of any conductive rock either in outcrop or composing boulders in the creekbed.

Alaska-Premier Figure 16

Prospect is located at an elevation of about 1300 feet on the south side of Taurus Creek. The portal of the main adit is 170 feet from the creek. This adit, a higher short adit 12 feet long and several rock cuts constitute the prospect. The main adit and bed of Taurus Creek were mapped and the adit briefly sampled by D. Kretschmar (9) for Houston Oil

and Minerals Corp. in 1979. B. Sheinberg (14) of Houston International Minerals Corp. mapped the prospect and directed a limited magnetic survey and soil sampling program in 1980. The prospect is covered by the Alaska-Premier grid which forms part of the more extensive Daly grid.

Limited mapping of the grid confirmed to a large degree Sheinberg's work. The area is underlain by an argillaceous andesitic tuff or argillite derived from andesitic rocks. A fragmental character is evident in good exposures. Fragments vary up to one foot or more in length, are rounded to subangular, fine grained, felsic to andesitic, with a suggestion of feldspar phenocrysts. Bedding was not clearly recognized except where the Daly Trail crosses Daly Creek. Here regularly banded grey and buff argillites are well exposed in the creek bed. These strike east of north and dip vertically. A fragmental nature is evident. The grey argillite beds exhibit flame structures which indicate tops face east. Massive argillites, no bedding observed, carrying irregular masses of carbonate (calcite), up to several inches in dimension overlie the banded argillites and form the creek bed to line 8+00W, Daly East grid. A minor disconformity separates the argillites. These are believed to be deep water sediments.

A fracture cleavage is present locally and the overall trend is between east-west and west-northwest with generally moderate dips. Silicification and sulphide mineralization occur within fracture zones, possibly related to and of similar age as the fracture cleavage. At surface, the mineralized zones seem to be narrow, up to a few feet wide, and discontinuous. Sulphides occur as disseminations, pods and stringers, pyrite and pyrrhotite predominate, sphalerite and less galena occur in variable but generally small amounts. Best values in base and precious values were obtained from chips off float boulders from a shallow cut in the north bank of a creek about 80 feet south of the main adit portal. It is likely that the adit was directed to explore the mineralization found

in this cut. Krekschmar's mapping of the adit indicates such mineralization was not intersected. Mineralization in bedrock was not seen in the cut and, if present, the location next to the Hyder intrusive may make definition of a drill target difficult.

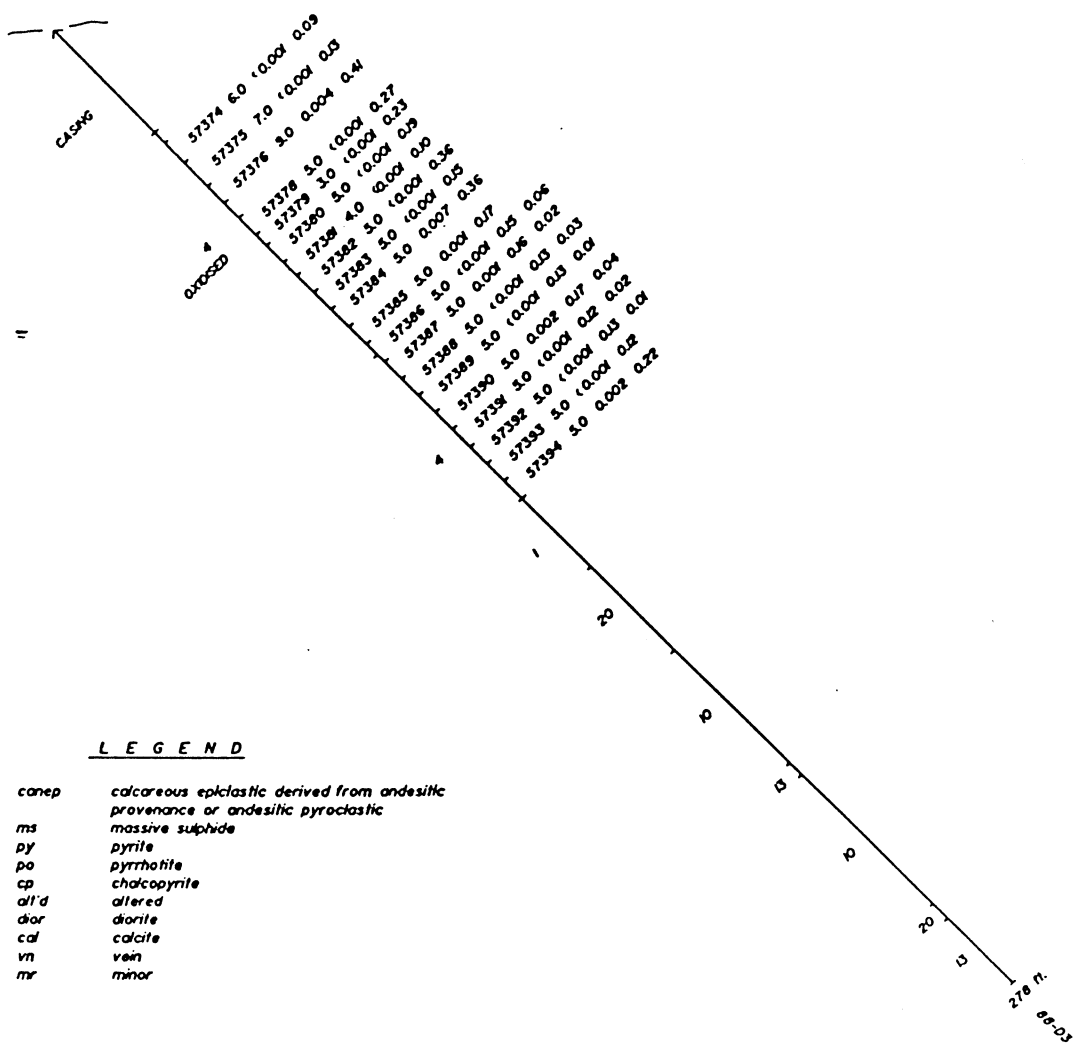
Upper Daly-Alaska Figures 17, 18, 19 & 20

Prospect is located at an elevation of about 1450 feet on the north side of Daly Creek. The portal of the main adit is 350 feet from the creek. Two adits, an upper and a lower, respectively about 220 and 120 feet long, a short tunnel ten feet long, and several rock cuts constitute the prospect. The Daly-Alaska grid covers the area and forms part of the large Daly grid.

Limited mapping and drilling within the immediate prospect area show it is underlain by an andesitic sequence composed of andesitic pyroclastics, cherty andesitic tuffs which include sulphidic chert horizons, feldspar porphyry flows and/or shallow intrusives, andesitic flow breccia, and a heterogeneous andesitic pyroclastic. These are underlain conformably(?) by a section of sedimentary breccias composed of fragments of dark blue shale and greyish-green argillaceous(?) tuff. Fragments range in size up to several inches. Andesitic feldspar porphyry and tuff are interlayered with the fragmented sediments.

Dykes of monzonite and diorite porphyries intrude the andesitic sequence. Both are of Tertiary age. The earlier diorite porphyry is believed to be an offshoot of the Hyder pluton. The monzonite porphyry intrudes the diorite and may also be an offshoot of the Hyder pluton or it may belong to the younger Premier dyke swarm.

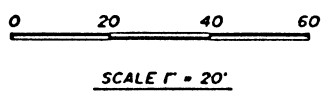
Sulphide mineralization is most prominent in chert bands and masses within the cherty andesitic tuff and, to a lesser degree, within the enclosing



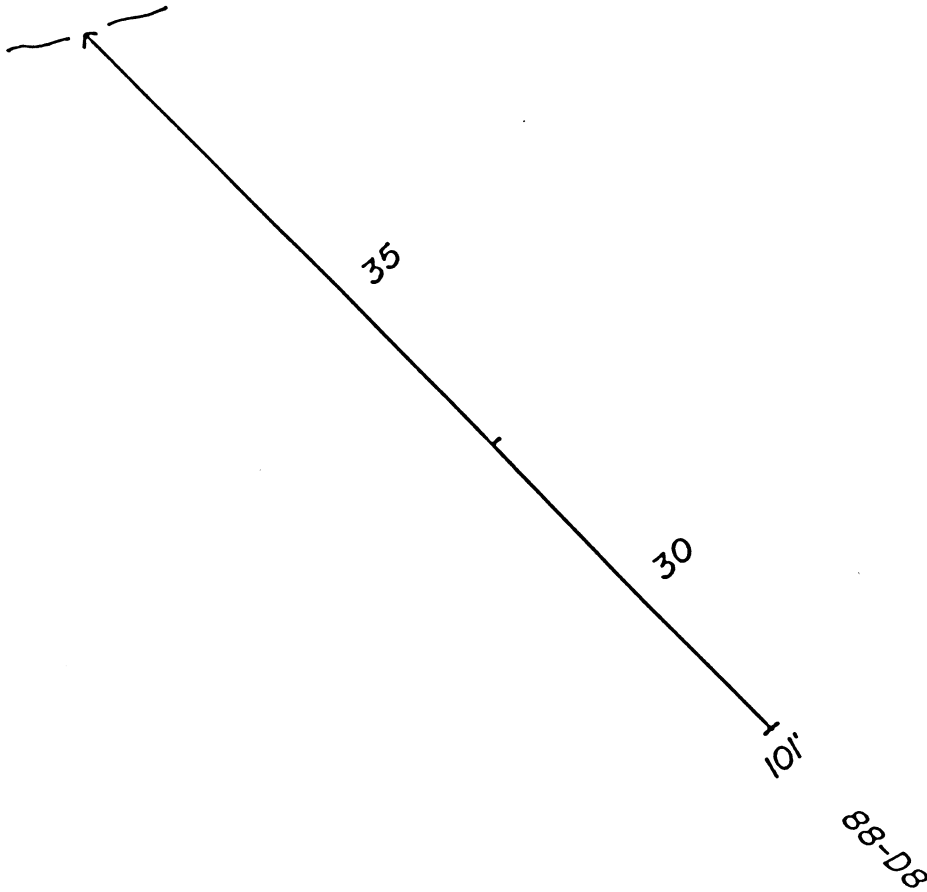
LEGEND

- canep calcareous epiclastic derived from andesitic provenance or andesitic pyroclastic
- ms massive sulphide
- py pyrite
- py pyrrhotite
- cp chalcocopyrite
- al'd altered
- dior diorite
- cal calcite
- vn vein
- mr minor

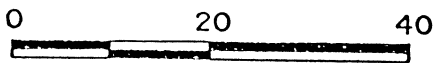
LITHOLOGY	% EST. SULPHIDE CONTENT					
	SAMPLE no.	WIDTH ft.	Au oz/t	Ag oz/t	Cu %	Zn %
57374	6.0	1.000	0.09			
57375	7.0	1.000	0.13			
57376	3.0	0.004	0.41			
57378	3.0	1.000	0.27			
57379	3.0	1.000	0.23			
57380	3.0	1.000	0.29			
57381	3.0	1.000	0.30			
57382	3.0	1.000	0.36			
57383	3.0	1.000	0.35			
57384	3.0	0.007	0.36			
57385	3.0	0.001	0.17			
57386	3.0	1.000	0.15	0.06		
57387	3.0	1.000	0.16	0.02		
57388	3.0	1.000	0.13	0.03		
57389	3.0	1.000	0.17	0.04		
57390	3.0	1.000	0.12	0.02		
57391	3.0	1.000	0.17	0.04		
57392	3.0	1.000	0.12	0.02		
57393	3.0	1.000	0.12	0.02		
57394	3.0	0.002	0.22			



STAR-ONE RESOURCES INC.	
DALY - ALASKA PROSPECT	
DH 88-03	
SECTION - LOOKING EAST	
MINERAL HILL PROPERTY	
HYDER DISTRICT, ALASKA	
GEOLOGY BY R H JAMES	
SEPTEMBER 1988	FIG. 13



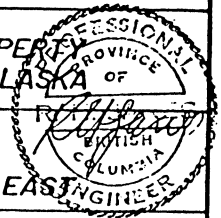
* SEE SECTION ALONG 88-DI ETC.
FOR LEGEND



SCALE 1" = 20'

BDS/KM

STAR-ONE RESOURCES LTD.	
MINERAL HILL PROPERTY HYDER DISTRICT, ALASKA	
DH 88-D8 SECTION LOOKING EAST	
GEOLOGY BY RH JANES	
DATE DEC 1988	FIG. 20



tuffs. These carry tuff fragments up to two inches in diameter which show banded and disseminated sulphides. Locally, the tuffs are silicified, bleached and/or sericitized. Sulphides as disseminations, blebs, stringers, and bands form, at most, 20% by volume over five feet of core. Generally sulphide content is less averaging between two and five percent over a possible true width of about 100 feet. Pyrrhotite and pyrite are most common, sphalerite is next, chalcopyrite and galena are fairly rare. Veins of quartz and carbonate with the same suite of sulphide minerals traverse the cherty andesite tuffs and, to a lesser extent, the remainder of the andesitic sequence and the underlying sediments.

Drillholes 88-D1, -D2, -D3, -D4 and -D7 collared in the immediate area of the lower adit penetrated up to possibly 150 feet, true width, of sulphidic cherty andesitic tuff over a dip distance of 200 feet. Best assays reported are:

Hole No.	Intersection	Au oz/t	Ag oz/t	Zn %	Pb %
88-D4	80.8 - 81.5	0.142	1.20	1.74	-
	125.0 - 130.4	0.015	0.68	0.76	0.50
	193.3 - 200.0	0.011	1.01	0.15	0.06
88-D7	373.0 - 378.0	0.022	0.17	-	-
	378.0 - 383.0	0.015	0.30	0.50	0.01

Three rock cuts, situated 160 feet south of the lower adit portal, expose sulphide mineralization in what is interpreted as a silicified fracture zone within andesitic rock. Fracture zone is at least four feet wide, strikes east-west and dips vertically. Zone lies to north of or is intruded by a Tertiary feldspar porphyry (monzonite or diorite). Sample results from this zone are:

Sample No.	Width (ft.)	Au oz/t	Ag oz/t	Pb %	Zn %
10675	5	0.118	26.5	1.88	3.70
10676	3	0.183	33.0	3.75	2.14
10677	-	0.137	7.84	2.03	2.70

Chips from selected boulders

The high silver values indicate the presence of a silver bearing sulfosalt. Another rock cut possibly on the same zone is located 150 feet east-southeast of the lower adit portal. Chips from selected muck assayed 0.047 oz/ton Au, 1.9 oz/ton Ag and 2.04% Pb. Drillholes 88-D1, -D2 and -D3 were directed to intersect this zone. The significantly lower values obtained from core samples and apparent attitude of the "fracture zone" suggest that it was not intersected. The upper adit intersected a fracture-crush zone with an associated quartz-calcite vein dipping steeply south. Stringers of pyrite, galena and sphalerite occur along the vein borders. Westgate (4) reported that tetrahedrite, chalcopryrite, pyrrhotite and arsenopyrite are also present. This mineralized fracture zone is likely a continuation of the one in the surface trenches. A mineralized boulder, composed in part of quartz, pyrite and sphalerite, sample No. 10698, probably originated from an outcrop of the quartz vein. The steep dip as indicated by the vein suggests that the zone, if present at depth, would pass to the south of drillhole 88-D1.

The portal of the lower adit has collapsed and is not accessible. Buddington (4) states that the adit is about 220 feet long. Westgate (4) describes the first 114 feet of the adit, driven before 1921, as follows:

"For the first 50 feet from the portal the rock is a light greenish-grey, fine grained rock, here more siliceous, there more calcareous, and everywhere somewhat pyritized. Then follows 27 feet of a similar rock containing bands and patches of sulphides (sphalerite, galena, and pyrite). This is followed in turn by 15 feet of less mineralized rock and 10 feet of mineralized rock. The remainder of the tunnel is in barren rock like that at the entrance. The rock structure at the entrance strikes N80°E and has nearly vertical dip, and the indistinct banding farther in agrees with this attitude."

The above 27 feet of sulphides is believed to have been intersected by drillholes 88-D1, -D2 and -D3.

Lower Daly-Alaska

The underground workings are situated near the level of the Salmon River highway. Two shafts and an adit were located. The main shaft, now partly collapsed and unusable, was sunk on the immediate south bank of Daly Creek just above the highway. An adit portal is located approximately 200 feet northeast, some 50 feet south from the centre of the highway. This adit is 140 feet long. An Alaska territorial report (18) states:

"The Daly Alaska Mine, situated at 11 Mile on the Salmon River road, was actively developed during 1925. Some 2000 feet of underground tunneling has been done. The ground so far developed is a brecciated greenstone zone in which occur lenticular veinlets of silver bearing minerals, the principal ones being tetrahedrite, galena, ruby and native silver. Work in progress during the spring of 1925 was the driving of a crosscut to explore a granitic zone southeast of the main workings. Power is furnished by a 25 hp semidiesel gas engine driving a 14 by 16 Sullivan air compressor."

To date no evidence has been found to substantiate the reported figure of 2000 feet of tunneling.

A grid was established over the prospect. This was soil sampled but not mapped. Buddington (4) describes the prospect as follows:

"The country rock consists of greenstone, which is cut by dikes of quartz and feldspar porphyry belonging to the Texas Creek batholith; and both the greenstone and the older porphyry are cut by dikes of granodiorite porphyry of the Hyder batholith and by malchite and lamprophyre dikes. Westgate summarized the occurrence of mineralization as follows:

Two kinds of mineral deposits occur on this property; one carries sphalerite, galena, and pyrite, and the other chiefly pyrrhotite. Only those of the first type are being developed.

They lie in a system of fracturing, in which certain zones are richer in sphalerite, galena, pyrite, with very little chalcopyrite, than the others. These richer zones carry gold and silver. The greenstone (also the older porphyry) lying within the zone of fracture is lighter colored than the normal country rock and carries a large amount of introduced silica and calcite. The difference between ore and country rock is a difference in the degree and kind of mineralization. There are no well-defined walls to the deposits and the richer portions grade into country rock. The introduction of the sulphides and silica seems to have been contemporaneous."

and

"Just above the camp at Elevenmile a great deal of underground prospecting has been done within the last few years. At the time of the writer's visit work had been suspended and accurate information as to what had been found could not be obtained. The mineral deposits here are in altered greenstone and consist of shoots similar to those in the higher prospects already described. No large ore body has been found. Material on the dump would indicate that a dike of older porphyry of the Texas Creek batholith, was cut in the tunnel. The sulphides comprise pyrrhotite, sphalerite, pyrite, galena, tetrahedrite, and chalcopyrite. Some of the tetrahedrite is the silver-rich variety freibergite. Assays of selected samples are reported to have yielded as high as 500 ounces of silver to the ton. A fault was cut in one of the tunnels, and it is reported that a little native silver was found near the fault."

Three rocks from the shaft muck pile adjacent Daly Creek were selected for assay. Results are:

Sample No.	Au oz/t	Ag oz/t	Zn %	Rock Type
88130	.029	12.60	1.35	Breccia; fragments angular, greater than 1 in. long, grey, f.g., in siliceous-sericitic matrix, 5-10% pyrite + reddish sulphides.
88131	.015	12.54	2.52	
88132	.001	1.98	0.51	F.g. andesitic rock traversed by carbonate veins (20-30%), pyrite in carbonate.

Stoner Figure 21

Prospect workings lie at an elevation of approximately 1450 feet on a northwesterly facing hillside about 850 feet from the International Boundary. These consist of several rock cuts, a 15-foot shaft and two adits below the shaft, the lower adit has collapsed and is inaccessible. The prospect area was covered by an extensive grid which was soil sampled but not mapped. The Hoosier adit is also on this grid.

Sheinberg's mapping (15) for Exxon Minerals is reproduced in Figure 21.

The area is underlain by an andesitic sequence of flows and fragmentals which include green and black argillaceous andesite carrying angular volcanic fragments and carbonaceous andesitic tuffs. These are intruded by Premier porphyry dykes, offshoots from the Texas Creek batholith, and dykes of Hyder granodiorite.

The workings are situated in sericitized Premier porphyry. Buddington (4) describes the mineralization as follows:

"At an altitude of about 1450 feet on American No. 2 claim a mineralized band in the greenstone has been prospected by a shaft and two open cuts. The western open cut measures 30 feet across the greenstone, and most of it shows seams and disseminated crystals of pyrite. There is a shoot several inches thick of pyrite and sphalerite, with a little galena, tetrahedrite, and pyrrhotite. Calcite is an associated gangue mineral. About 50 feet up the hillside and 20 feet vertically above the open cut, a 15-foot shaft has been sunk on a shoot of sulphide. This shoot is 7 feet wide at the top of the shaft and consists of greenstone with many seams parallel to the schistose structure mineralized with pyrite, sphalerite, and galena. The vein strikes about east and dips north, so that only the north wall of the shaft is mineralized with sulphides other than pyrite. There is considerable quartz with the sulphides, and the greenstone is somewhat silicified. At 25 feet to the east a 40-foot open cut exposes 3 feet of similar mineralized greenstone.

Specimens obtained from mineralized shoots on other claims are reported to have yielded \$6 to \$8 to the ton in gold and silver, in addition to the lead in the galena."

Stoner-Clegg-O'Rourke

Prospect was not located, it is however believed to be situated within the grid confines. Buddington (4) describes it as follows:

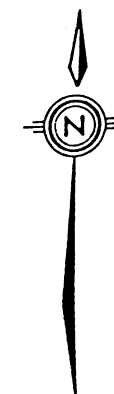
"Above the cabin on the Liberty claim, on the bank of a gulch, at an altitude of about 1350 feet, a tunnel 75 feet long has been driven N. 65° E. in greenstone. The mineral on the dump shows veinlets of calcite with sphalerite, pyrite, and galena. Small amounts of pyrrhotite, chalcopyrite, and tetrahedrite are also present. Open cuts have been made at other localities on bands in the greenstone carrying disseminated pyrite and pyrrhotite and seams of calcite, sphalerite, pyrite, and galena."

Virginia

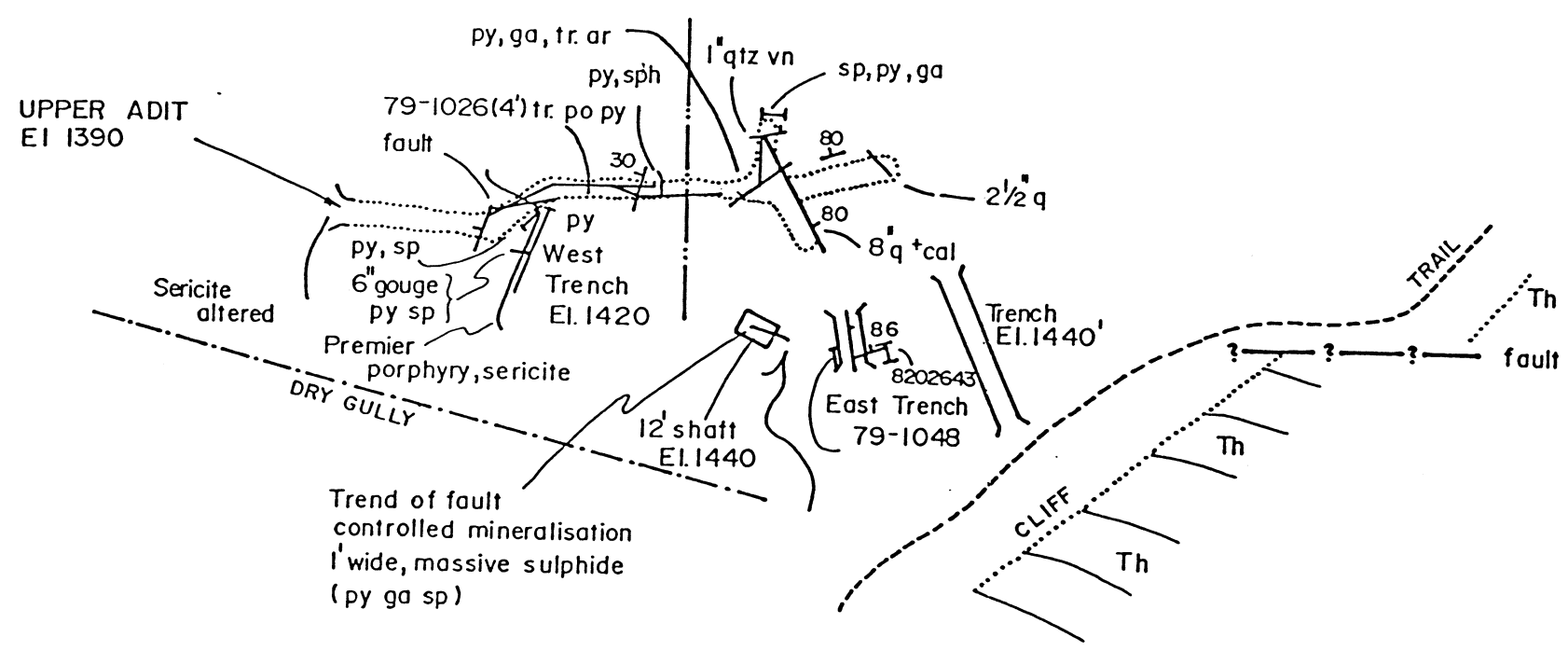
No work was done on this. Buddington (4) describes it as follows:

"The Virginia group comprises four claims and a fraction staked in 1919. The claims are mainly east of the Salmon River road along Boundary Creek and are bordered on the south by the Daly-Alaska group.

Mineralized shoots in greenstone are being prospected. On the banks of Cascade Creek a crosscut adit has been driven 50 feet to a mineralized body and a drift extended 225 feet to the southeast and 30 feet to the northwest. The mineralized shoot strikes N. 50° W., dips south, and is in a highly altered basic porphyry or porphyritic greenstone, and is in a sheared zone several feet thick exposed along the northwest end of the drift for about 50 feet. At the northwest face of the drift there is a shoot of almost solid sulphide, consisting of pyrrhotite, sphalerite, pyrite, and a little galena in a quartz gangue. A little tetrahedrite is also present. To the southeast, mineralized bands are exposed in the roof of the drift, and quartz veins and calcite seams are common. Southeast of the mineralized shoot the drift follows a dike. A malchite dike was crossed near the portal of the adit. Selected samples of ore are reported to have run as high as 4-1/2 ounces of gold to the ton.



- LEGEND:**
- Th Tertiary Hyder granodiorite
 - Strike and dip of foliation
 - 79-000 Sample location, number
 - phenocryst
 - tr trace
 - q quartz
 - py pyrite
 - sp sphalerite
 - ar arsenopyrite
 - po pyrrhotite
 - cal calcite
 - f feldspar
 - fault
 - ga galena



NOTE:
 Copied from map by Exxon Minerals Co, Aug.1983
 Original difficult to read, some data omitted, some may be incorrect

SAMPLES, LOWER ADIT

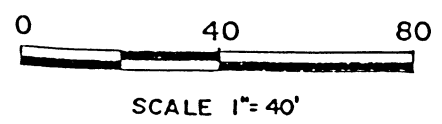
8202369	Cu 100
Comp chip	Pb 1300
(ppm)	Zn 3300
	Ag 11.8
	Au 0.1
79-1026	Cu 124
4' chip	Pb 770
(ppm)	Zn 1400
	Ag 0.9
	Au 0.55

SAMPLES, EAST TRENCH

8200483	(grab of banded ga, sp, py. from site of exhalitive band)
	Cu 0.02%
	Pb 1.75%
	Zn 0.80%
	Ag 0.75 oz/t
	Au 0.1oz/t
8202643	(2 parallel composite chips)
	Cu 100
	Pb 2500
(ppm)	Zn 3300
	Ag 4
	Au 1.1

79-1048(4' chip)

Cu 184
Pb 1500
(ppm) Zn 5700
Ag 6.17
Au 0.41



STAR-ONE RESOURCES INC.

MINERAL HILL PROPERTY
 HYDER DISTRICT, AK

STONER PROSPECT
 GEOLOGY & SAMPLING

GEOLOGY BY: B. SCHEINBERG	DATE: DECEMBER. 1988	FIGURE. 21
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About 125 feet east of the road, southeast of the adit, an open cut at an altitude of about 670 feet has been made on altered porphyritic greenstone. This exposure shows numerous stringers of barren to sparsely mineralized glassy quartz, fractures faced with sphalerite, and stringers, threads, and blebs of galena and pyrite. About 150 feet upstream from the portal of the adit another adit has been started in mineralized greenstone, which contains many seams and stringers consisting mostly of pyrrhotite, with some pyrite and a little chalcopyrite and sparse sphalerite and galena, and which also shows a notable quantity of epidote in bands and veins. Two other open cuts have been made on the property on schistose bands of greenstone mineralized with disseminated deposits and veinlets of pyrite and a little pyrrhotite and locally a little sphalerite and galena. Several granodiorite porphyry dikes on the property have produced local contact-metamorphic minerals, especially epidote and rarely garnet, in their immediate vicinity."

Border

No work was done on this. Buddington (4) describes it as follows:

"The Border group consists of two claims adjacent to the international boundary on the Salmon River road. They are held by Lon Doggat.

The country rock is interlayered dark-grey slate and fine graywacke. Scattered seams and narrow stringers of mineralized quartz are distributed through a wide zone in the form of gash veinlets at an angle to the bedding. The sulphides comprise galena, sphalerite, pyrite, and a little chalcopyrite and occur in heavily mineralized shoots as much as 6 inches wide. The ore minerals are not in uniform association but tend to occur with one or another predominant. Considerable carbonate occurs with the ore minerals. An adit has been driven 70 feet for the purpose of cutting the mineralized fissured zone, which lies between two dikes of granodiorite porphyry."

MW-13

This conductor is close to or follows the Salmon River highway which is here underlain mainly by argillite and siltstone. A northwest trend in the conductor probably reflects the trend of a Tertiary granitoid dyke swarm which traverses the sediments (3).

MW-16

This and MW-15 closely follow a 4000 foot section of the old Silbak Premium tramline. Most of MW-16 is situated within a granitoid intrusive. The south end of MW-16 trends southeast which probably reflects the dyke swarm mentioned above (3).

Airborne Survey Over Silbak Premier

= Aerodat's interpretation map (Map No. 3) shows no conductors that correspond to the Silbak Premier ore zones as outlined by Randall (12).

GEOCHEMISTRY

All grids were soil sampled. Samples were taken at 100 foot intervals, placed in kraft paper bags, numbered and grid location, soil type, depth, vegetation and drainage noted. Samples were dried and despatched to Kamloops Research and Assay Laboratories for analyses. Total gold, silver, copper, lead, zinc, and arsenic contents were determined.

Soil development was poor about and above treeline on the semi-plateau area of the Shasta grid. Here soils had frequently formed on glaciated bedrock hence a "C" horizon had not developed, the "B" horizon, if present, was thin and had formed from glacial or fluvial sediment, the organic section of the "A" horizon was generally fairly well developed. Below timberline the areas sampled were steep slopes clothed by virgin forest. Here again soils had formed on glaciated surfaces though the occasional "C" horizon occurred and locally a "B" horizon was present. The organic section of the "A" horizon was frequently a foot or so thick, a leached section was often not apparent. Samplers attempted to sample material below the "A" horizon but often took an organic sample rather than none. Consequently the samples are irregular in character, often of poor quality and metal contents may not be strictly comparable one with another.

As a result, anomalous zones are spotty and unsuitable for contouring. The limited soil development does not generally allow for meaningful sampling of the soil profile though one profile was sampled in the Upper Daly-Alaska trenches.

Sample results are plotted in pairs, eg., gold and arsenic. Threshold and anomalous values were calculated using a limited number of samples for each of the two main grids, ie., Shasta and Hobo-Daly-Stoner. These values are accentuated by spot forms. Loose groupings of these are termed

anomalies. Westmin exploration personnel advise that according to their experience, soil geochemistry has proved to be a prime exploration tool even though values are erratic and spotty. They also note that individual spot highs should not be ignored.

A list of anomalies with comments follows:

SHASTA GRID

1. **Sulphide Creek** Pb, Ag, Cu, Zn, Au, As

This extends from where the creek crosses the access road to L1N, 3+00 and 4+00W. It reflects the sulphide mineralization observed and provides a spot gold target at L0, 3+00W. The Shasta prospect is not indicated. Three conductors were located adjacent to the creek by the Crone EM survey, precise locations are unknown. Merits detailed follow up.

2. **L4S, 4+00E** As, Zn, Pb

Spot anomaly is in altered intrusive, quartz veins are 150 to 200 feet to northwest upslope.

3. **L0, 7+00-9+00E** Au, Zn, Ag

Line anomaly is in altered intrusive, no outcrop, disseminated pyrite 200 feet south. Coincident with IP chargeability high. Merits follow up.

4. **Skookum Creek** Au, As, Cu, Zn, Ag

A spotty open anomaly at the northern edge of the grid between L10N and L24N. Mineralized fractures in andesitic rocks occur on L12N and mineralized boulders are present in Skookum Creek (sample No. 10679, 0.158 oz/t Au). The Crone EM survey located a conductor in the general area. Merits follow up.

5. **L6N, 10+00-11+00E** As, Pb

Line anomaly is in altered intrusive, no outcrop, 300 feet northeast of No. 4 Iron.

6. **Nos. 2 and 3 Iron** Au, As, Zn, Pb, Ag

An extensive spotty anomaly extends from L14N, 12+00-14+00E to L24N, 10+00-14+00E. Nos. 2 and 3 Iron prospects are situated on the

west flank downslope. The area is underlain by altered intrusive. No. 3 Iron and the northern part of the anomaly lies within an IP chargeability high. Merits follow up.

7. L35N, 28+00-29+00E to L39N, 29+00-30+00E Cu, Zn, Pb, Ag, As, Au

Anomaly is open to west and probably underlain by andesitic volcanics and Tertiary granitoid dykes. Merits follow up. The Zebra veins are believed to be in the area and may be the source of this anomaly or number 8.

8. L33N, 34+00-36+00E to L39N, 34+00-36+00E Pb, Ag, Zn, As

Anomaly is open to south and probably underlain by andesitic volcanics and Tertiary granitoid dykes. Merits follow up.

9. L49N, 27+00-33+00E As, Zn, Ag

Anomaly is open to north and probably underlain by a Tertiary granitoid dyke. Merits follow up.

HOBO & MW-7

1. L6E, 5+00N-9+00N to L8E, 5+00N-10+00N Ag, As, Zn

West edge explored by adit, area includes mineralized fractures exposed in creek. No further work recommended at present.

2. L2E, 9+00N-11+00N to L4E, 10+00N-11+00N Ag, Pb, Cu, As, Au

Merits follow up.

3. L2W, 7+00N to L8W, 6+00N-8+00N Ag, Pb, Zn, Cu, As, Au

Open to west. Eastern section only mapped, here underlain by graphitic shale. Merits follow up.

4. L0, 5+00N-6+00N to L2W, 4+00N As, Zn, Pb, Au

Merits follow up.

5. L0, 2+00N to L6W, 0+00 Ag, As, Cu, Zn, Au

Open to southwest. Merits follow up.

6. L2W, 11+00S-13+00S Ag

Open to east. Merits follow up.

DALY GRIDSMW-10 GRID

L0, 1+00S-2+00N to L4E, 1+00N Zn, Ag, As, Au

Merits follow up.

DALY EAST

1. L8W, 2+50N-2+75N to L10W, 1+00N Ag, Pb, As

Merits follow up.

2. L0, 2+00S-4+00S to L6W, 8+00S Ag, As, Cu

Open to west, could be a drainage. Merits follow up.

3. L0, 7+00S-10+00S to L2W, 8+00S-10+00S As, Cu, Ag

Open to southeast. Merits follow up.

4. L13W, 8+00S to 9+00S Ag, Pb, As

Point anomalies in Taurus Creek drainage.

PREMIER-ALASKA

1. L20W, 3+00S through L26W, 2+00S-8+00S to L30W, 4+00S
Pb, Ag, As, Zn, Cu

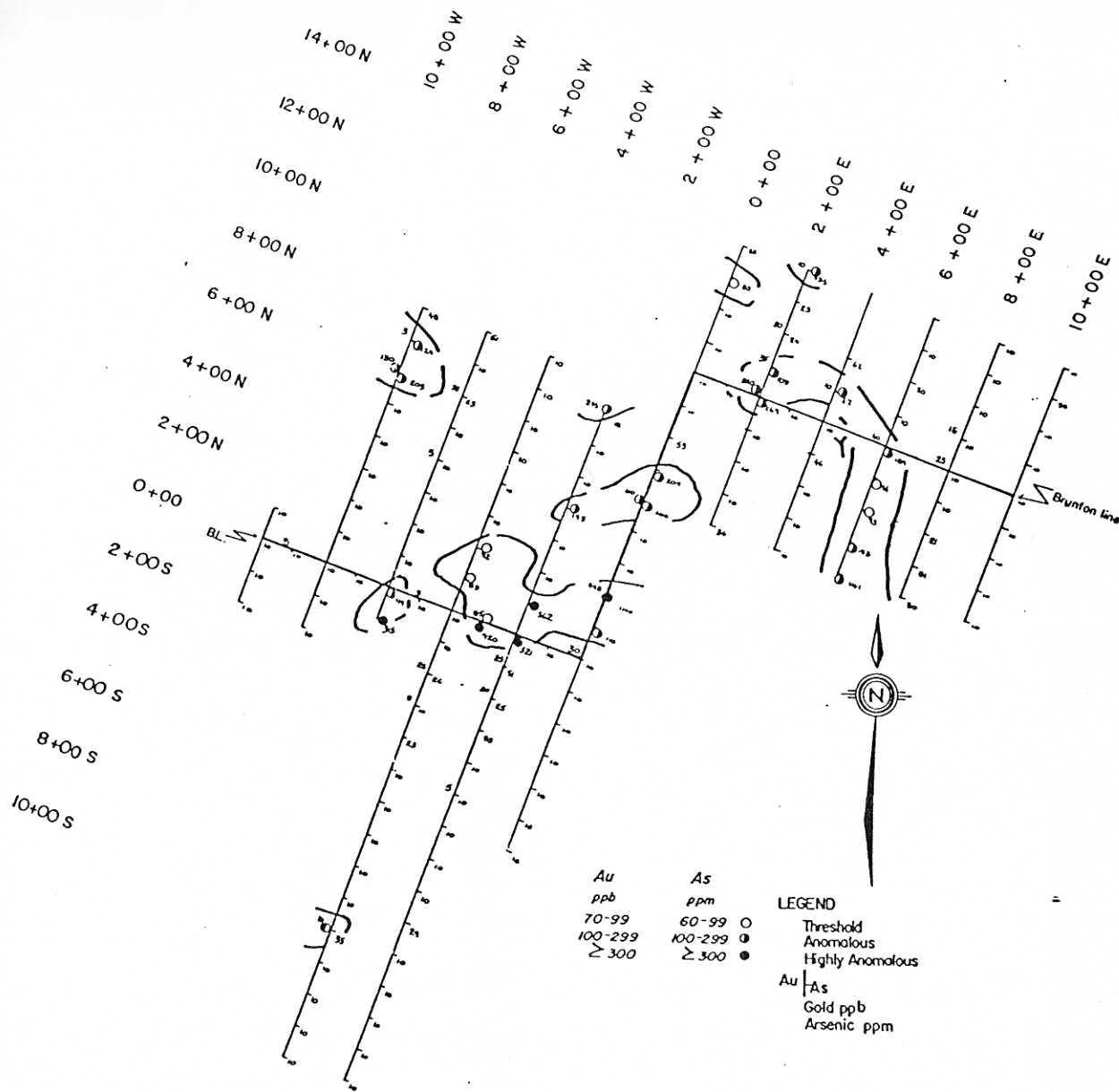
A spotty, loose anomalous zone. High values north of main adit may be due to drainage from dump. Merits detailed follow up.

2. L20W, 11+00S Au, Ag

Spot high. Merits follow up.

3. L26W, 17+00S to L32W, 17+00S Ag, Zn, As

Open to south. Area not mapped. Could be drainage in part. Merits follow up.

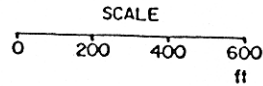


Au	As	
ppb	ppm	
70-99	60-99	○
100-299	100-299	◐
≥ 300	≥ 300	●

LEGEND

- Threshold
- ◐ Anomalous
- Highly Anomalous

Au | As
 Gold ppb
 Arsenic ppm



STAR ONE RESOURCES LTD

MINERAL HILL PROPERTY, HYDER DISTRICT

HOBO GRID

GEOCHEMICAL SURVEY

Gold and Arsenic in soil

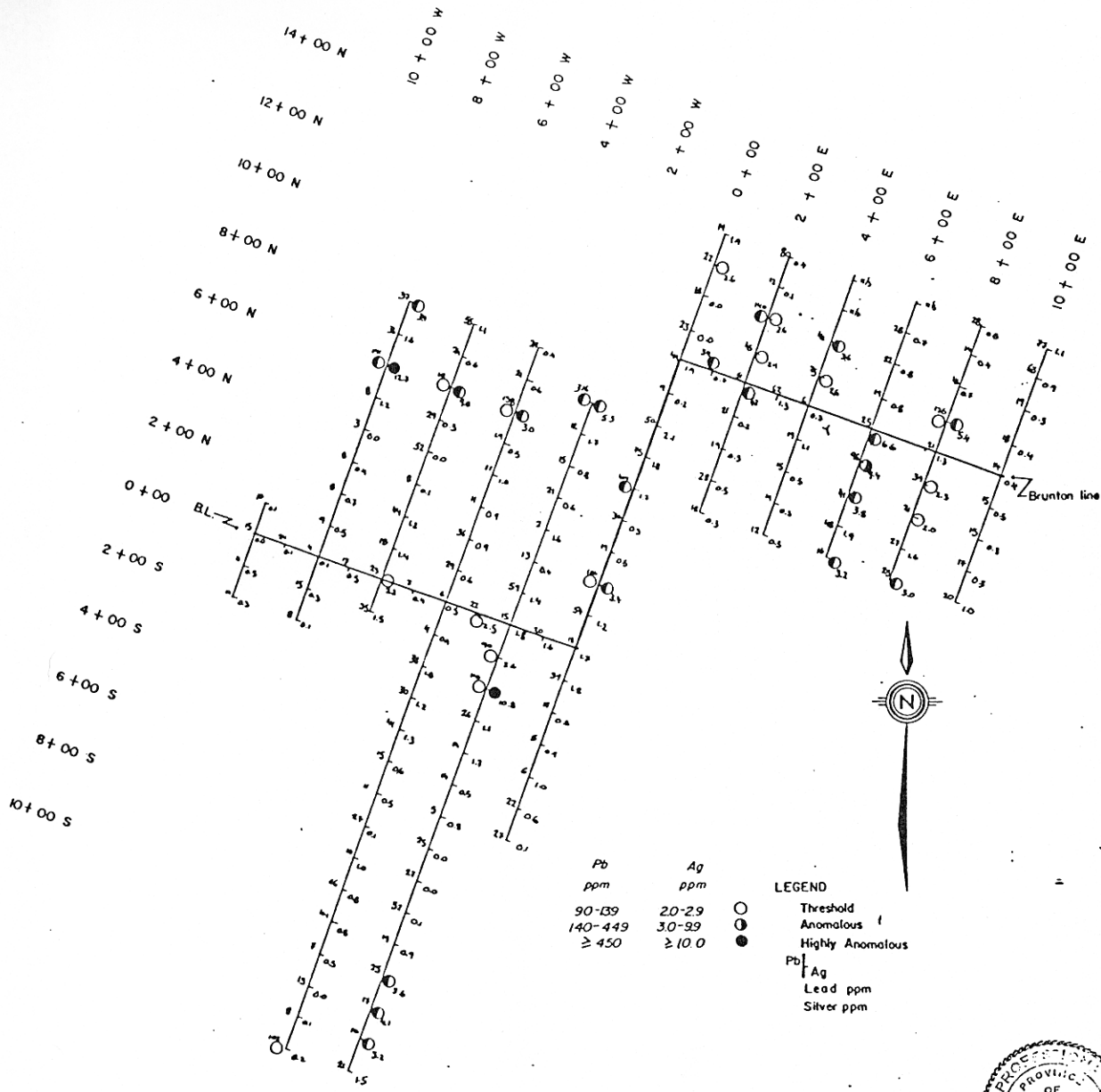
Sept. 1988

Tech work by: R. H. Jones

Drawn by: B. D. Bushell

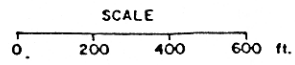
FIGURE 25





Pb	Ag	
ppm	ppm	
90-139	20-29	○
140-449	30-99	◐
≥ 450	≥ 10.0	●

LEGEND
 Threshold
 Anomalous
 Highly Anomalous
 Pb |
 Ag |
 Lead ppm
 Silver ppm



STAR ONE RESOURCES LTD.

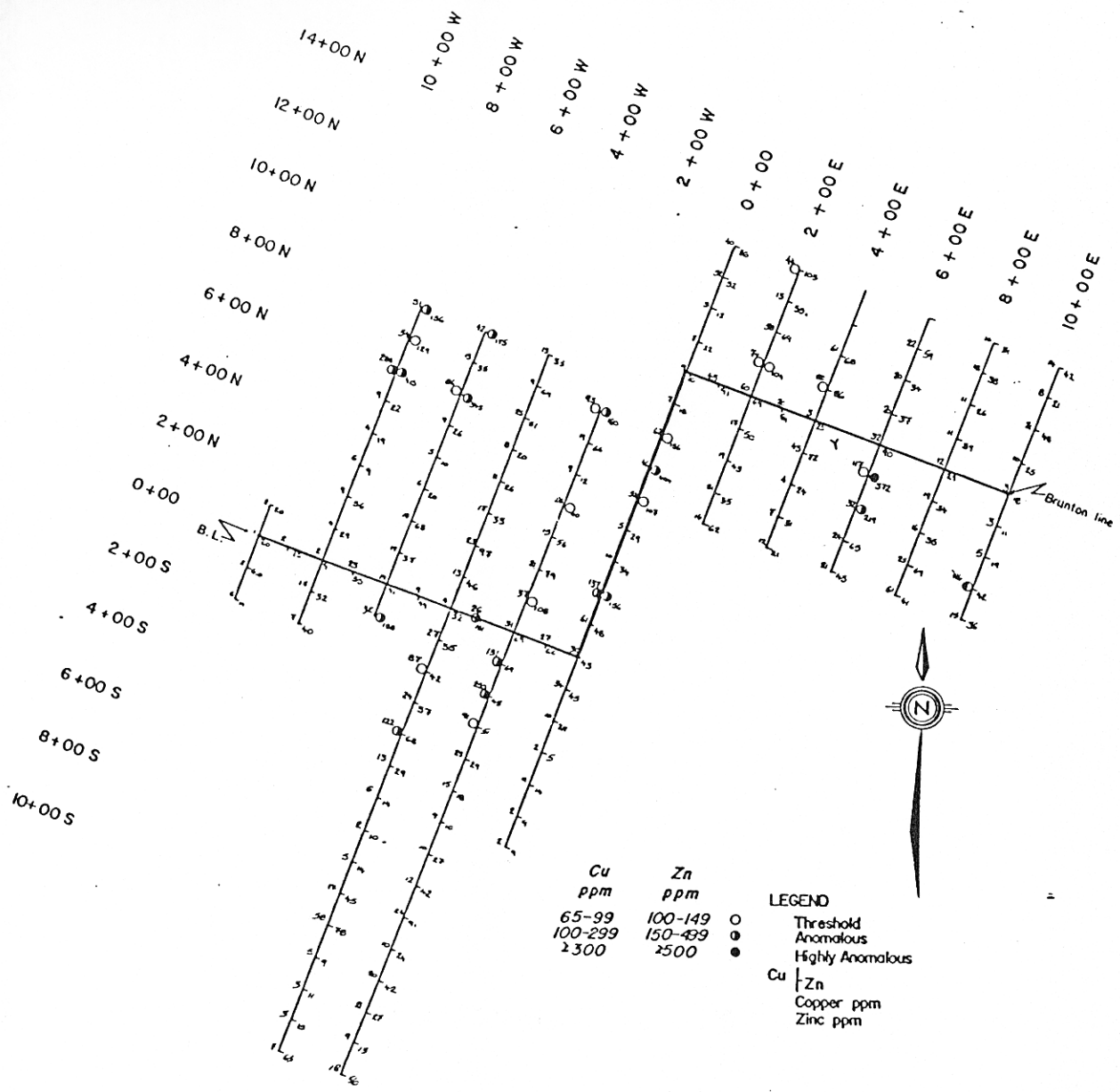
MINERAL HILL PROPERTY, HYDER DISTRICT, AK., USA

HOBO GRID GEOCHEMICAL SURVEY

Lead and Silver in soil Sept. 1988

Tech work by: R. H. Jones Drawn by: B.D. Bushell

FIGURE 26



Cu ppm	Zn ppm	○	Threshold
65-99	100-149	◐	Anomalous
100-299	150-499	◑	Highly Anomalous
≥300	≥500	●	

Cu	|	Zn	
Copper ppm		Zinc ppm	

LEGEND

○ Threshold
 ◐ Anomalous
 ◑ Highly Anomalous

Cu | Zn
 Copper ppm
 Zinc ppm

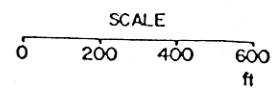


STAR ONE RESOURCES LTD

MINERAL HILL PROPERTY, HYDER DISTRICT

HOBO GRID

GEOCHEMICAL SURVEY



Copper and Zinc in soil

Sept. 1988

Tech work by: R. H. Jones

Drawn by: B. D. Bushell

FIGURE 27

DALY-ALASKA

The original grid and extensions show a greater density of metal values at or above threshold than any of the other grids on the property.

Several anomalous areas straddle the baseline. The southwest anomaly (Pb, Ag, As, Au, Zn) centres around the Upper Daly-Alaska prospect. The northwest anomaly is spotty and embraces the Lower Daly-Alaska prospect. A concentration of values located above the shafts and along L14W and L15W may reflect mineralization described by Buddington (4) as follows:

"Near the bend of the gulch, at an altitude of about 600 feet, two open cuts have been made on a mineralized shoot in the greenstone. There is a vein 3 feet wide here, consisting of greenstone streaked with stringers of fine granular galena, pyrrhotite, and sphalerite, with some chalcopryrite and pyrite and a little arsenopyrite, together with calcite and quartz veinlets carrying some sulphides. The sulphides may form about 20 percent of the shoot. The vein strikes about N80°W and dips 60°S, and it is reported to average 30 to 40 ounces of silver to the ton. In another open cut on the same zone, about 10 feet above, the sulphides consist mainly of pyrite with local sphalerite stringers that assay high in gold."

An extensive spotty anomaly (Ag, Pb, As, Zn) centres a round L8+00N between L2W and L8W. A small strong anomaly (Ag, Pb, Au, As, Zn) occurs on L12W, 8+00N-9+00N.

The concentration of anomalous values in this grid area merits careful detailed follow up.

STONER

A spotty anomaly (Pb, As, Cu, Zn) extends downslope for 200 feet from the surface workings. A larger anomaly (Pb, Ag, As, Au, Zn) extends from L14W to L20W for about 200 feet north of the baseline. Anomalies merit detailed follow up.

ECONOMICS

Two different types of mineralization, each with economic potential, occur on the property. At present, one is not judged more important than the other. Each is considered separately.

a) Massive Sulphide Lenses

These comprise pyrrhotite and/or pyrite, quartz and minor chalcopyrite and carry significant values in gold. Examples of this type in the region occur at Scottie Gold, the Silver Butte property of Tenajohn Silver Corp. and Silbak Premier. Scottie Gold Mines set up a 200 ton per day mill and underground operation in an area where costs are higher than those in the property area. In 1981 this company had a reserve of approximately 350,000 tons grading 0.52 oz/ton gold plus minor silver (2). The Shasta area has a potential for hosting similar sulphide lenses. A lens with 25 percent gangue material and dimensions in feet of 700x250x16 equates to 350,000 tons. Sampling of the Shasta deposit suggests a grade of between 0.2 and 0.25 oz/ton gold for this very small lens. If this grade is representative for the Shasta locale, then the target to be searched for approaches 700,000 tons.

b) Disseminated sulphides in chert horizons with attendant cross-cutting veins of quartz and carbonate carry associated values in gold and silver.

The Big Missouri group of orebodies are of this type. Size and grade as quoted by Dykes et al (6) are:

Big Missouri

	Tons	Au oz/t	Ag oz/t	Pb %	Zn %
Buena Vista Mining Co. - mined & recovered	822,300	0.078	minor amounts		
Westmin Resources - geological reserve	4,062,016	0.073	0.62	minor amounts	
	Tons	Au Equivalent oz/t			
Dago Zone - geological reserve	614,000	0.085	(Au equivalent is based on 1 gram per tonne Au = 100 g/t Ag)		
S-1 Zone - geological reserve	1,366,900	0.081			
Province Zone - geological reserve	316,370	0.076			

The mineralization and hosting environment encountered at the Upper Daly-Alaska prospect are very similar to that at the Big Missouri property. It is most likely that ore grade mineralization from the Upper Daly-Alaska would prove an acceptable feed to the Westmin concentrator. Consequently a deposit amenable to open pit mining and similar in size and grade to the Province zone could be marketable to Westmin Resources.

CONCLUSIONS AND RECOMMENDATIONS

The Mineral Hill property is situated in the reactivated and now flourishing "Stewart mining camp". It is proximal to the Silbak Premier precious metal deposit and is underlain by the same suite of volcanic and intrusive rocks which host this deposit, the Big Missouri Group of precious metal deposits and two small gold deposits. Westmin Resources and partners expect to commence production from these deposits early in 1989. Capital cost for the project excluding working capital, inflation and interest is expected to total \$80,350,000 (21).

The geological environment of the property and the mineralization discovered attest to the unusually good potential for the occurrence of economic mineralization. Two types of mineralization occur, both associated with andesitic volcanics. Massive sulphides with significant gold values and a low copper content are present in the Sulphide Creek area. Newly discovered mineralization at the Upper Daly-Alaska prospect is very similar to that at the Big Missouri deposits. Here drilling in 1988 intersected approximately one hundred feet, true width, of sulphides which carry scattered low values in zinc, lead, silver and gold. Continued and substantial expenditures on exploration in these areas is warranted. Recommendations for those prospects meriting further work follow:

1. **Shasta Grid, Sulphide Creek Area**

Between lines 2N and 24N extend grid to 10+00W or property boundary, soil sample and remap at scale one inch equals 50 feet, strip soil anomalies where possible, run ground EM survey on 36,000 feet of lines spaced at one hundred foot intervals and drill 3000 feet of BQ wireline on worthwhile conductors.

2. **Shasta Grid, Nos. 2 and 3 Iron Prospects**

Extend soil sampling to lines spaced at 100 foot intervals, map and carry out a preliminary program of 4000 feet of percussion drilling to a depth of 200 feet. No. 3 Iron to be drilled first. Of the drill programs recommended, this has the lowest priority.

3. **Hobo and Conductor MW-7**
Complete mapping of grid, prospect and, if possible, strip better geochemical anomalies.
4. **East Daly, Conductors MW-9, -10 & -11**
Map grid, prospect geochemical anomalies.
5. **Alaska-Premier**
Remap at scale of one inch equals 50 feet, prospect geochemical anomalies and strip where possible, possibly extend grid to south, clean out old cuts, examine main adit and carry out 1000 feet of BQ diamond drilling.
6. **Lower and Upper Daly-Alaska**
Close up line spacing to 100 feet, soil sample new lines, complete mapping at scale one inch equals 50 feet, prospect geochemical anomalies and strip where possible, if practical rehabilitate main adit, map and sample this and other adits and cuts and carry out 5000 feet of BQ diamond drilling on geological-geochemical targets.
7. **Stoner and Stoner-Clegg-O'Rourke**
Map at scale one inch equals 50 feet, prospect geochemical anomalies and strip if possible, carry out 1000 feet of BQ diamond drilling.
8. **Virginia, Border, and Conductors MW-13 and -16**
Grid, soil sample and map.

Road Access

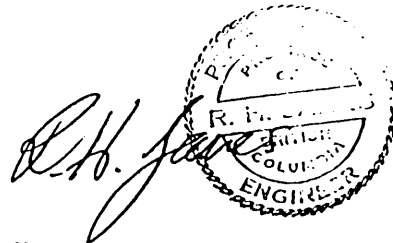
Road access to the Upper Daly-Alaska, Premier-Alaska and Stoner prospects would reduce operating costs and enhance the value of the property. A route following the Daly Trail is judged practical.

Initially a cat road would suffice.

Topographic Map

With continued encouragement on the property, a detailed topographic map will be required. It is recommended that a photogrammatic survey be done for this purpose in September when snow cover is least. Due to the severe relief, ground control will be required. A working scale of one inch equals 400 feet is suggested.

Respectfully submitted



R.H. Janes, P.Eng.

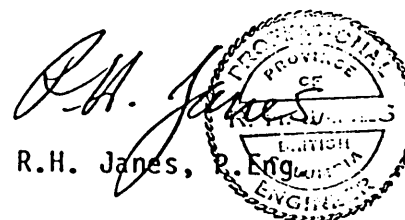
Vancouver, B.C.
December 30, 1988

COST ESTIMATE FOR RECOMMENDED PROGRAM

Field crew, May 1 to September 30 (150 days) eleven crew, including two geologists	\$290,750
Camp supplies, equipment and vehicles at \$50 per man day	82,500
Geophysics, ground EM survey	17,000
Diamond drilling, 10,000 ft of BQ wireline	225,000
Analyses	40,000
= Helicopter and/or cat-road access	65,000
Topographic map	25,000
Data review, drafting and final report	16,000
Contingency, 10% of \$761,250	76,000
Company salaries and expenses, 10% of \$837,250	<u>84,000</u>
	\$921,250
	say \$920,000
	=====
For percussion drill sampling program of 4000 feet, add	\$ 45,000

Vancouver, B.C.
December 30, 1988

R.H. Janes,

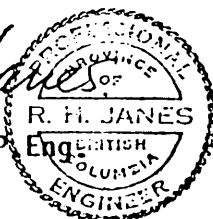


CERTIFICATE

I, Richard H. Janes of Vancouver, British Columbia, do hereby certify:

1. That I have actively practised the profession of mining geology since 1956.
2. That I am a graduate of the Royal School of Mines, London, U.K. with a B.Sc. (Mining Geology) degree.
3. That I am an independent mining geologist employed by R. Janes & Associates Ltd.; business address: 305 - 402 West Pender Street, Vancouver, B.C. V6B 1T6.
4. That I am a registered Professional Engineer in the Province of British Columbia, a member of the Canadian Institute of Mining and Metallurgy, and a Fellow of the Geological Association of Canada.
5. That I have no direct, indirect or contingent interests in Interex Development Corporation, Star One Resources Inc., or in the mining claims described, or in any mining claim within ten miles of the boundaries of the mineral claims described.
6. That I spent from July 15 to October 17, 1988 on the Mineral Hill property directing and working on exploration of the property.
7. That I hereby consent to the publication of my report entitled "Report on the Mineral Hill Property, Hyder District, Alaska, U.S.A." dated December 30, 1988, in a prospectus or statement of material facts.

December 30, 1988

R.H. Janes
R.H. Janes, P. Eng.


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Appendix I

MINING CLAIM DETAIL

1. FEDERAL (Bureau of Land Management) CLAIMS

Claim Name	Date of Posting Location Notice	Date Recorded	Locator(s) & Address(es)	Owner and Current Address
PO-1 to 29	17 April 1987	22 Apr/87	Joe Marx	Pulsar Resources U.S.), Inc., #100, 878 Cambie Street, Vancouver, B.C. Canada V6B 2P6
PO-29A to 65	"	"	Hyder, AK	
PO-65A to 77	"	"	"	
PO-77A to 96	"	"	"	
PO-97	22 July 1988		Guy Comer	Interex U.S. Inc. 2310 Empire Way Boise, Idaho 83709
PO-98 Fr	"		Box 3345	
PO-99 Fr	"		Ketchikan AK; and Jim Simpson Box 45 Hyder, AK	
PO-100 to 114	4 Sept. 1988		Guy Comer	Pulsar (Resources U.S.), Inc.

117 claims in total

2. STATE CLAIMS

OP-1 to 28	17 April 1987	22 Apr/87	Joe Marx	Pulsar (Resources U.S.), Inc.
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3. CLAIMS OPTIONED OR LEASED FROM MINERAL BASIN MINING CORPORATION

V-RAY 1 to 10 and Mineral Venture 3 to 9, together known as the Finger Group.

NOTE: A title search of the above claims has not been done by R.H.Janes; several of the posts were examined and these are map located.

Appendix II

DETAILED COST ESTIMATE FOR RECOMMENDED PROGRAM

1.	Field crew, May 1 to September 30 (150 days)		
	- 2 geologists	@ \$325 & \$225/day	\$ 82,500
	- cook	@ \$125/day	18,750
	- office person	@ \$125/day	18,750
	- 5 line cutters/samplers, core grabbers	@ \$125/day	93,750
	- foreman	@ \$150/day	22,500
	- prospector	@ \$200/day	30,000
	Crew of eleven		
	- WCB and Vacation Pay	@ approx. 5%	13,500
	- Mobilization	@ \$1000 each	<u>11,000</u>
			\$290,750
2.	Camp costs: supplies, equipment and vehicles		
	Crew of eleven @ \$50 per man day		82,500
3.	Geophysics: ground EM survey, 36,000 feet, includes camp costs		17,000
4.	Diamond drilling: BQ wireline		
	- 10,000 ft	@ \$20 per foot	\$200,000
	- Mobilization		10,000
	- Camp costs, 4 men for 75 days		<u>15,000</u>
			225,000
5.	Analyses		40,000
6.	Road and/or helicopter access (May be less if cat-road established. Includes cost of cat-road.)		65,000
7.	Topographic map, includes underground survey and camp costs		25,000
8.	Data review, drafting and final report (October-November)		16,000
9.	Contingency: 10% of \$761,250		76,000
10.	Company salaries and expenses: 10% of \$837,250		<u>84,000</u>
			\$921,250

		say,	\$920,000
			=====

Appendix III

ASSAY CERTIFICATES

from

Kamloops Research & Assay Laboratory Ltd.
and
Min-En Laboratories Ltd.



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO Interex Development Corp.
570 - 789 West Pender Street
Vancouver, B.C. V6C 2H2

Certificate No. K 9067

Date August 10, 1988

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	Au							
		ozs/ton							
1.	10638	.005							

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Deak A. Blundell

Responsible Assayer



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

B.C. LICEN D ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

TO Interex Development Corp.
570 - 789 West Pender Street
Vancouver, B.C. V6C 2H2

Certificate No. K 9104

Date August 19, 1988

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	Au ozs/ton	Cu percent						
1.	10639	.002	--						
2.	10640	L.001	--						
3.	10641	L.001	--						
4.	10642	.053	--						
5.	10643	.231	--						
6.	10644	.595	--						
7.	10645	* .015	--						
8.	10646	.011	--						
9.	10647	.121	.28						
10.	10648	.072	.20						
11.	10649	.001	L.01						
12.	10650	.144	.16						
		L means "less than"							
		* Sample has been screened and found to contain coarse gold. See Below.							
		% Weight	Au	Comb Au					
			ozs/ton	ozs/ton					
7.	10645 -100 mesh	99.9	.010	.015					
	10645 +100 mesh	.026	17.0						

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Deane A. Blundell

Member
Canadian Testing
Association

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSE ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO Interex Development Corp.

570 - 789 West Pender Street

Vancouver, B.C. V6C 2H2

Certificate No. K 9138

Date August 31, 1988

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	Au	Ag	Pb	Zn	Cu				
		ozs/ton	ozs/ton	percent	percent	percent				
1.	10651	.061	--	--	--	.20				
2.	10652	.024	--	--	--	.14				
3.	10653	.215	--	--	--	.08				
4.	10654	.045	--	--	--	.11				
5.	10655	.005	--	--	--	.12				
6.	10656	.045	--	--	--	.17				
7.	10657	.001	.90	--	--	--				
8.	10658	L.001	.34	.04	.18	.01				
9.	10659	.018	6.53	--	--	--				
10.	10660	.123	9.10	3.90	5.70	.14				
11.	10661	.012	3.47	1.29	3.69	.70				
12.	10662	.008	2.30	--	2.10	--				
13.	10663	.016	--	--	--	--				
14.	10664	.030	--	--	--	--				
15.	10665	.013	.49	--	--	--				

L means "less than"

NOTE:

Rejects retained three weeks.
Pulps retained three months
unless otherwise arranged.

Deak A. Samuel

Registered Assayer, Province of British Columbia



Member
Canadian Testing
Association

KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C. V6C 2H2

Certificate No. K 9162

Date September 2, 1988

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	Au	Ag	Pb	Zn	Cu	As			
		ozs/ton	ozs/ton	percent	percent	percent	percent			
1.	10666	.050	3.27	.65	1.04	--	--			
2.	10667	.055	11.8	1.96	6.26	--	--			
3.	10668	* .165	8.78	2.55	5.04	--	--			
4.	10669	.039	3.99	.47	1.28	--	--			
5.	10670	.029	.75	.19	.90	.01	.16			
6.	10671	.057	5.81	--	.53	.06	--			
7.	10672	.005	2.30	2.08	3.14	.06	--			
8.	10673	.047	1.90	.80	2.04	--	--			
9.	10674	.023	.17	--	--	.06	--			
10.	10675	* .118	26.5	1.88	3.70	--	--			
11.	10676	* .183	33.0	3.75	2.14	--	--			
12.	10677	* .137	7.84	2.03	2.70	--	--			

* Sample has been screened and found to contain coarse gold. See Below.

NOTE:
Rejects retained three weeks.
Pulps retained three months
unless otherwise arranged.



Registered Assayer, Province of British Columbia



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO Interex Development Corp.

Certificate No. K 9162

Date _____

I hereby certify that the following are the results of assays made by us upon the herein described _____ samples

Kral No	Marked	% Weight	Au ozs/ton	Comb Au ozs/ton					
3.	10668 -100 mesh	99.99	.159	.165					
	10668 +100 mesh	.01	44.72						
10.	10675 -100 mesh	99.89	.109	.118					
	10675 +100 mesh	.11	7.95						
11.	10676 -100 mesh	99.99	.177	.183					
	10676 +100 mesh	.01	56.9						
12.	10677 -100 mesh	99.99	.134	.137					
	10677 +100 mesh	.01	58.3						

NOTE:
Rejects retained three weeks.
Pulps retained three months
unless otherwise arranged.

W. A. Stinson

Registered Assayer, Province of British Columbia

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**** ASSAY CERTIFICATE ****



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9218

Date: Sept. 15, 1988

Proj.:

Attn: Will Thompson

No.	Description	Au ozs/ton	Ag ozs/ton	Pb %	Zn %	Cu %
1	10678	.001	--	--	--	--
2	10679	.158	--	--	--	.17
3	10680	.001	--	--	--	.24
4	10681	* .227	--	--	--	.55
5	10682	.077	--	--	--	.29
6	10683	.001	.18	--	.88	--
7	10684	.040	.43	--	4.05	.03
8	10685	.025	.60	--	6.61	.06
9	10686	.003	.38	.06	1.75	--
10	10687	.003	.45	.04	1.73	--
11	10688	.107	.35	.03	1.74	--
12	10689	<.001	.10	.01	.05	--
13	10690	.083	1.25	.05	.67	--
14	10691	.006	.23	.05	.35	--
15	10692	.074	1.33	.04	.04	--
16	10693	.004	.14	--	--	--
17	10694	<.001	--	--	--	--
18	RJ 1104 R	<.001	--	--	--	--

* Sample has been screened and found to contain coarse gold. See Below.

	x Weight	Au ozs/ton	Comb Au ozs/ton
4	10681 -100 mesh	99.99	.227
	10681 +100 mesh	.01	90.4

Jack A. Shumell
B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**** ASSAY CERTIFICATE ****



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9277

Date: Oct. 5, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Cu %	Pb %	Zn %
1	57276	<.001	.06	.01	--	--
2	57277	.004	.11	.05	--	--
3	57278	<.001	.08	.01	--	--
4	57279	<.001	.05	.01	--	--
5	57280	<.001	.01	.03	--	--
6	57281	<.001	.01	.03	--	--
7	57282	.002	.05	.01	--	.08
8	57283	<.001	.03	<.01	--	--
9	57284	.004	.05	.01	--	.01
10	57285	<.001	<.01	<.01	--	--
11	57286	<.001	.06	.01	--	--
12	57287	.002	.08	.02	--	--
13	57288	.022	.35	.14	--	--
14	57289	<.001	<.01	.02	--	--
15	57290	.002	<.01	<.01	--	--
16	57291	<.001	<.01	.01	--	--
17	57292	<.001	.01	.01	--	--
18	57293	<.001	.05	.02	--	--
19	57294	.002	.05	.02	--	--
20	57295	.110	.11	.06	--	--
21	57296	.001	.17	.35	--	.01
22	57297	<.001	.06	.02	--	--
23	57298	.003	.08	.02	--	--
24	57299	.001	.06	<.01	--	--
25	57300	<.001	.11	<.01	--	--
26	57301	.001	.06	.01	--	--
27	57302	.001	.06	.01	--	--
28	57303	<.001	.03	.02	--	--
29	57304	<.001	.03	.02	--	--
30	57305	.001	.06	.01	--	--
31	10698	.032	1.37	.02	.25	.97

David A. Stumvoll

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**** ASSAY CERTIFICATE ****



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9286

Date: Oct. 13, 1988

Attn:

Proj.:

No.	Description	Au ozs/ton	Ag ozs/ton	Cu %
1	57306	<.001	.07	.03
2	57307	<.001	.06	.02
3	57308	<.001	.07	.02
4	57309	<.001	.05	.03
5	57310	.002	.04	.03
6	57311	<.001	.04	.01
7	57312	<.001	.03	.01
8	57313	<.001	.01	.01

Donk A. Beaudell

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 6P5 PHONE (604) 372-2784 FAX 372-1112



**** ASSAY CERTIFICATE ****

To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9290

Date: Oct. 14, 1988

Proj.:

Attn:

No.	Description	Au	Ag	Pb	Zn	Cu
		ozs/ton	ozs/ton	%	%	%
1	57314	.002	.47	.03	.03	.01
2	57315	<.001	.13	<.01	.03	.01
3	57316	<.001	.09	<.01	.02	.02
4	57317	<.001	.34	.01	.04	.03
5	57318	<.001	.10	<.01	.04	.01
6	57319	<.001	.10	<.01	.02	.01
7	57320	<.001	.10	<.01	.03	.01
8	57321	<.001	.09	<.01	.04	.01
9	57322	<.001	.25	<.01	.04	.01
10	57323	<.001	.44	<.01	.02	.01
11	57324	.003	.95	.04	.07	.02
12	57325	<.001	.18	<.01	.01	.02
13	57326	.001	.17	<.01	.03	.01
14	57327	<.001	.09	<.01	.02	.01
15	57328	<.001	.06	<.01	.03	.01
16	57329	<.001	.09	.01	.01	.01
17	57330	<.001	.12	<.01	.01	.01
18	57331	<.001	.08	<.01	.01	.01
19	57332	<.001	.12	<.01	.05	.02
20	57333	<.001	.04	<.01	.01	<.01
21	57334	<.001	.03	<.01	.01	<.01
22	57335	<.001	.15	.01	.06	.02
23	57336	.100	.33	.02	.98	.03
24	57337	<.001	.28	<.01	.02	.01
25	57338	.001	.17	.01	.04	.02

Derek A. Stumvoll

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

012 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**** ASSAY CERTIFICATE ****

To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9298

Date: Oct. 14, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton
1	10695	.194	2.51

Jack A. Stewart

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

•• ASSAY CERTIFICATE ••



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9300

Date: Oct. 18, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Zn %
1	57339	<.001	.08	--
2	57340	<.001	.09	--
3	57341	<.001	.10	--
4	57342	<.001	.09	--
5	57343	<.001	.15	--
6	57344	<.001	.12	--
7	57345	<.001	.14	.02
8	57346	<.001	.11	--
9	57347	<.001	.14	--
10	57348	<.001	.16	--
11	57349	<.001	.62	--
12	57350	<.001	.34	.06
13	57351	.001	.23	.04
14	57352	<.001	.14	--
15	57353	.001	.08	--
16	57354	<.001	.12	--
17	57355	<.001	.14	--
18	57356	<.001	.13	--
19	57357	<.001	.15	--
20	57358	.003	.40	--
21	57359	.001	.35	--
22	57360	.005	.49	--
23	57361	<.001	.15	--
24	57362	<.001	.15	--
25	57363	<.001	.22	--
26	57364	<.001	.10	--
27	57365	<.001	.10	--
28	57366	<.001	.12	--
29	57367	<.001	.10	--
30	57368	<.001	.10	--
31	57369	<.001	.09	.03
32	57370	<.001	.11	.03

Deane A. [Signature]

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

** ASSAY CERTIFICATE **



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9300

Date: Oct. 18, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Zn %
33	57371	<.001	.09	.02
34	57372	<.001	.05	--
35	57373	<.001	.08	--
36	57374	<.001	.19	--
37	57375	<.001	.13	--
38	57376	.004	.41	--
39	57378	<.001	.27	--
40	57379	<.001	.23	--
41	57380	<.001	.19	--
42	57381	<.001	.10	--
43	57382	<.001	.36	--
44	57383	<.001	.15	--
45	57384	.007	.36	--
46	57385	.001	.17	--
47	57386	<.001	.15	.06
48	57387	.001	.16	.02
49	57388	<.001	.13	.03
50	57389	<.001	.13	.01
51	57390	.002	.17	.04
52	57391	<.001	.12	.02
53	57392	<.001	.13	.01
54	57393	<.001	.12	--
55	57394	.002	.22	--

Janet A. [Signature]
B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 6P5 PHONE (604) 372-2784 FAX 372-1112

** ASSAY CERTIFICATE **



To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9319

Date: Oct. 26, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Pb %	Zn %	Cu %
1	10699	<.001	.03	<.01	<.01	.01
2	10700	<.001	.03	--	--	--
3	57395	* .011	.09	--	--	--
4	57396	.142	1.20	--	1.74	--
5	57397	<.001	.06	--	--	--
6	57398	.004	.34	.17	.32	.01
7	57399	.015	.68	.50	.76	--
8	57400	.002	.24	--	.02	--
9	57401	.001	.42	--	.06	--
10	57402	.003	.32	.11	.17	.01
11	57403	<.001	.23	--	.02	--
12	57404	<.001	.18	--	.01	--
13	57405	<.001	.12	--	.02	--
14	57406	<.001	.19	--	.01	--
15	57407	<.001	.16	--	.03	--
16	57408	<.001	.08	--	<.01	--
17	57409	<.001	.12	--	<.01	--
18	57410	<.001	.09	--	--	--
19	57411	<.001	2.07	--	--	--
20	57412	.011	1.01	.06	.15	.01
21	57413	.005	.79	.04	.08	.01
22	57414	.002	.18	--	.06	--
23	57415	.002	.14	--	--	--
24	57416	.001	.40	--	--	--
25	57417	<.001	.10	--	--	--
26	57418	<.001	.12	--	--	--
27	57419	<.001	.07	--	--	--
28	57420	<.001	.07	--	--	--
29	57421	<.001	.06	--	--	--
30	57422	<.001	.07	--	--	--
31	57423	<.001	.06	--	--	--
32	57424	<.001	.07	--	--	--

David A. Stewart

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112

**** ASSAY CERTIFICATE ****



To: Interex Development Corp.
570 - 789 West Pender Street
Vancouver, B.C.
V6C 2H2

Number: K 9319

Date: Oct. 26, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Pb %	Zn %	Cu %
33	57425	<.001	.09	--	--	--
34	57426	<.001	.05	--	.01	--
35	57427	<.001	.06	--	.01	--
36	57428	<.001	.05	--	<.01	--
37	57429	.001	.07	--	.01	--
38	57430	.003	.10	--	--	--
39	57431	<.001	.09	--	--	--
40	57432	<.001	.13	--	--	--
41	57433	<.001	.09	--	--	--
42	57434	<.001	.05	--	--	--
43	57435	.006	.54	--	2.85	--
44	57436	<.001	.09	--	--	--
45	57437	<.001	.11	<.01	.02	.01
46	57438	<.001	.14	--	.05	--
47	57439	<.001	.13	--	.21	--
48	57440	<.001	.14	.01	.11	.01
49	57441	.002	.17	--	.06	--
50	57442	<.001	.10	--	--	--
51	57443	<.001	.07	--	--	--
52	57444	<.001	.06	--	--	--
53	57445	<.001	.22	--	.06	--
54	57446	<.001	.11	--	.03	--
55	57447	<.001	.11	<.01	.04	.02
56	57448	.003	.35	.01	.02	.01
57	57449	<.001	.07	--	--	--
58	57450	<.001	.06	--	--	--
59	57451	<.001	.07	--	.03	--
60	57452	<.001	.05	--	.05	--
61	57453	.022	.17	--	--	--
62	57454	.015	.30	.01	.50	.02
63	57455	.004	.26	--	--	--
64	57456	<.001	.14	--	--	--

Wesley A. Blum

B.C. Certified Assayer

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112



**** ASSAY CERTIFICATE ****

To: Interex Development Corp.
570 - 789 West Pender St.
Vancouver, B.C.
V6C 2H2

Number: K 9319

Date: Oct. 26, 1988

Proj.:

Attn:

No.	Description	Au ozs/ton	Ag ozs/ton	Pb %	Zn %	Cu %
65	57457	<.001	.09	--	--	--

* Sample has been screened and found to contain coarse gold. See Below.

		x Weight	Au ozs/ton	Comb Au ozs/ton
3	57395 -100 mesh	95.87	<.001	.011
	57395 +100 mesh	4.13	.27	

Wendell A. Bussell
B.C. Certified Assayer



Certificate of ASSAY

Company: R. JANES ASSOCIATES LTD.
Project:
Attention: R. H. JANES

File: 8-1983/P1
Date: NOV 10/88
Type: ROCK ASSAY

I hereby certify the following results for samples submitted.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON
7 332	.021	.01	.02	3.8	0.11
7 336	.020	.02	.88	8.4	0.25
7 369			.03	2.3	0.07
7 388			.02	2.0	0.06
7 396			1.46	39.6	1.16

7 398	.013	.18	.30	12.0	0.35
7 399		.45	.61	19.4	0.57
7 402	.012	.13	.17	12.3	0.36
7 406			.04	6.0	0.18
7 412	.015	.05	.11	32.4	0.95

7 435			2.88	18.0	0.53
7 439			.25	4.3	0.13
7 454	.019	.01	.48	9.9	0.29
7 455			.20	7.6	0.22

Certified by 

MIN-EN LABORATORIES LTD.



**MIN
• EN
LABORATORIES LTD.**

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Certificate of Assay

Company: R. JANES ASSOCIATES LTD.
Project:
Attention: R. H. JANES

File: 8-1983/P2
Date: NOV 10/88
Type: ROCK ASSAY

I hereby certify the following results for samples submitted.

Sample Number	ZN %	AG G/TONNE	AG OZ/TON
78 130	1.35	432.0	12.60
88 131	2.52	430.0	12.54
88 132	.51	68.0	1.98

Certified by _____

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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Certificate of ASSAY

Company: R.H. JAMES & ASSOC.
Project:
Attention: R.H. JAMES

File: 8-1983/P1
Date: DEC. 3/88
Type: ROCK GEOCHEM

I hereby certify the following results for samples submitted.

Sample Number	AU* G/TONNE	AU* OZ/TON
130-120MESH	1.00	0.029
131-120MESH	.50	0.015
132-120MESH	.02	0.001

*SAMPLES PREVIOUSLY SIEVED FOR METALLICS.

Certified by



MIN-EN LABORATORIES LTD.

CERTIFICATE OF ASSAY

COMPANY: R. JAMES & ASSOC.
 PROJECT:
 ATTENTION: R. H. JAMES

FILE: 8-1925
 DATE: NOV. 10/82
 TYPE: METALLIC SELL ASSAY

I hereby certify that the following are assay results for samples submitted.

Sample No.	Weight (g)	Assay Method	Result (%)	Standard Error (%)	Notes
80001	1500.0	...	...	...	...
80002	177.75	...	...	...	...
80003	1807.50	...	...	...	...
80004	1878.75	...	...	...	...
80005	1000.0	...	...	...	...
80006	1000.0	...	...	...	...
80007	1000.0	...	...	...	...
80008	1000.0	...	...	...	...
80009	1000.0	...	...	...	...
80010	1000.0	...	...	...	...
80011	1000.0	...	...	...	...
80012	1000.0	...	...	...	...
80013	1000.0	...	...	...	...
80014	1000.0	...	...	...	...
80015	1000.0	...	...	...	...
80016	1000.0	...	...	...	...
80017	1000.0	...	...	...	...
80018	1000.0	...	...	...	...
80019	1000.0	...	...	...	...
80020	1000.0	...	...	...	...
80021	1000.0	...	...	...	...
80022	1000.0	...	...	...	...
80023	1000.0	...	...	...	...
80024	1000.0	...	...	...	...
80025	1000.0	...	...	...	...
80026	1000.0	...	...	...	...
80027	1000.0	...	...	...	...
80028	1000.0	...	...	...	...
80029	1000.0	...	...	...	...
80030	1000.0	...	...	...	...

Certified by *[Signature]*
 MIN-EN LABORATORIES LTD.

Appendix IV

DRILL LOGS

Property Mineral Hill, AK
 (#120) Shasta Iron
 Project No. N.T.S. 104B-1E

Sheet No. 1 of 3 Hole No. 88-S1

Core Size: B0

Logged by: R. Janes

0+78S Elev. Approx. 2900 ft. Dip -45 Collared 14 September 1988

0+61W Depth 250 ft. Bearing 90° Completed 15 September 1988

ASSAYS

Stage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS				
								Au oz/t	Ag oz/t	Cu %	Pb %	Zn %
0 - 2.0		Fresh surface, grey green, felsic gm 75-80%, crystals of altered mafic(?) 25-20%. Grain boundaries indistinct. Vague outlines		Frequent quartz and carb (calcite) fracture fillings, carb. (calcite) borders quartz, <10% locally, generally <5%. Disseminated pyrite	<2							
		of possible rounded fragments (several ins. dimension) sometimes present. Possibly altered: pervasive calcite, + sericite + chlorite. Possible calcareous		along fractures. Quartz and carbonate also replace host.								
		epiclastic derived from andesitic provenance of andesitic tuff.										
0 - 1.8		Light grey green, crystalline texture evident. Fine to medium grained altered mafic (hornblende) 20-25%, fine grained feldspar		As above.								
		phenos 20-25% in light coloured soft gm. Possible altered diorite (Texas gaudiorite offshoot). Contacts broken.										
8 - 50.0		Andesitic unit, possible epiclastic or tuff.										
.8-.9 4.9				Fractures, 45°, stringers (<0.25 in) of pyrite. Band of crystalline pyrite >quartz, 0.5-0.75 inch. Cut-off by minor fault.								
.5 - 1.0				Pyrite as weak disseminations and as stringers and blebs along fractures.	3-4	57276	5.5	<.001	.06	.01	- -	

Property Mineral Hill, AK
 (#104) Daly Alaska Prospect
 Project No. N.T.S. 104B-1F

Sheet No. 1 of 5 Hole No. 88-D2

Lat 0 + 52N Elev. Approx. 1450 ft. Dip -60
 Dec. 0 + 52W Depth 446 ft. Bearing due south
 Collared 27 September 1988 Completed 29 September 1988

Core Size: BQ
 Logged by: R.H. Janes

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS					
								Au oz/t	Ag oz/t	An %	Pb %		
0-30 30-32		Casing, 2 ft. extends above ground. Boulders											
32.0 - 125.0		Cherty andesitic tuff. Fragmental, andesitic(?) with cream coloured silicified dis- rupted mineralized zones as in 88-D1.											
32.0 - 38.0	85	Core broken, sulphides oxidized, some sulphide remain.		Pyrite, sph.	2-3	57345	6.0	<.001	.14	.02	-		
32.0 - 33.0 38.0 - 43.0	90	~1.5 ft. core broken.		Irregular quartz stringers, <1 inch wide, vuggy pyrite. Weakly mineralized.	1-2	57346	5.0	<.001	.11	-	-		
13.0-48.0 8.0-53.0 3.0-58.0 3.0-63.0 3.0-68.0	80 60 40 60 80	Core very broken, oxidized. Same as above. Same as above. Same as above. Core broken, silicified in part.			1-2 1? 1? 1?	57347 57348 57349 57350	5.0 5.0 5.0 5.0	<.001 <.001 <.001 <.001	.14 .16 .62 .34	- - - -.06	- - - -		
18.0 - 73.0	95	Upper 2 ft. oxidized/broken, locally silicified (10%), epidote fine grained - scattered development.		Py, 5-10% where not oxidized. Pyrite, po, sph?	1-2	57331 57352	5.0 5.0	<.001 <.001	.23 .14	.04 -	- -		
13.0 - 78.0 8.0 - 84.0	90 93	Po-pyrite concentrations oxidized, silicified, epidote. Same as above.		Po pyrite, most sulphides oxidized. Po pyrite.	~1 ~1	57353 57354	5.0 6.0	.001 <.001	.08 .12	- -	- -		
4.0 - 89.0	80	Sulphide concentrations oxidized, silicified, epidote (5-10% over few inches). Core broken, oxidized.		Pyrite po.	1-2	57355	5.0	<.001	.14	-	-		
15.0-87.0 1.0-94.0 1.0-91.0		Clay alteration, kaolinite? Sulphide conc's oxidized, silicid Core broken, oxidized.		Py 3-5% where not oxidized.	1-2	57356	5.0	<.001	.13	-	-		

Property Mineral Hill, AK

Sheet No. 3 of 5 Hole No. 88-D2

Project No. N.T.S.

Lat	Elev.	Dip	Collared	Core Size:							
Dep.	Depth	Bearing	Completed	Logged by:							
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS			
								Au	Ag	Zn	Pb
25.0 - 130.0	95	Fragmental, andesitic. Much of the sulphide oxidized. Oxidized veins: 127.6-.9, 128.8, 129.3 - 130.0		Pyrite.	~1	57363	5.0	<.001	.22	-	-
30.0 - 135.0	95	Andesitic tuff(?)		Pyrite, po.	2-3	57364	5.0	<.001	.10	-	-
35.0 - 140.0	90	Same as above.		Pyrite, po.	2-3	57365	5.0	<.001	.10	-	-
39.0		Core ground, oxidized fracture.									
40.0 - 145.0	98	Andesitic tuff(?)		Pyrite, po.	3-4	57366	5.0	<.001	.12	-	-
45.0 - 150.0	98	Same as above.			3-4	57367	5.0	<.001	.10	-	-
50.0 - 154.5	95	Same as above. Several oxidized fractures.		Pyrite, po.	1-2	57368	4.5	<.001	.10	-	-
54.5 - 165.0		Cherty andesitic tuff.									
54.5 - 160.0	98	Silicified ~50%.		Pyrite, po>sph>>chalcopyrite.	5-10	57369	5.5	<.001	.09	.03	-
50.0 - 165.0	97	light grey alteration(?) - irregular, amorphous outline, colloidal		Pyrite, po>sph.	5	(57369 57370	5.0	.001 <.001	.07 .11	.03 .03	- -
55.0 - 79.0		- silica/quartz and sericite? Alteration(?) decreasing w depth. Andesitic tuff.									
55.0 - 70.0	97			Pyrite.	1-2	57371	5.0	<.001	.09	.02	-
70.0 - 79.0		Lineation becoming evident @ ~178, 59°.		Po blebs, <0.1 inch becoming evident in last foot.							
79.0 - 92.5		Feldspar porphyry Upper contact transitional over 0.5 ft, irregular ~20° to core axis. As in DH 88-D1.		Disseminated po.	1?						

Property Mineral Hill, AK

Sheet No. 4 of 5 Hole No. 88-D2

Project No. N.T.S.

Core Size:

Elev. Dip Collared Logged by:

Depth Bearing Completed ASSAYS

Stage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
0.5 - 1.8 0.0 - 0.0	99	Andesitic tuff.		Po, pyrite.	3-5	57372	5.0	<.001	.05	-	-	-
0.8 - 4.7?		Feldspar porphyry. Chilled upper border, feldspar phenos absent for ~ 2 ft., irregular cont. ~35°		Disseminated po. A few scattered quartz veins.	~1							
1.5 - 0.0				Vein, quartz + chloritized wall rock fragments. Upper contact 46°, lower contact 50°.								
1.0 - 4.7		Frequent oxidized fractures. Lower contact irregular chilled edge, no phenos for ~1 inch.										
0.7? - 0.4		Fragmental. Light grey green fragments in dark grey blue shale matrix, as for DH 88-D1.		Laced with veins, stringers, etc. of quartz and/or carb.								
0.7(?)		Core ground over a few inches.										
0.4 - 5.0		Feldspar porphyry		Disseminated po.	1-2							
0.0 - 9.5		Fragmental, as before. Fragments of light grey green tuff-arg. larger. Lower contact a shear, sharp, 55°.		Mainly stringers of pyrite.	2-3							
0.5 - 2.0		Feldspar porphyry Very few feldspar phenos. Lower contact chilled, no phenos for 2 ft., intrusive character.		Po.	1-2							

Project No.

N.T.S.

Core Size:

Lat	Elev.	Dip	Collared	Logged by:
Dep.	Depth	Bearing	Completed	

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS				
								Au	Ag	Zn	Pb	
102.0 - 107.0	95	Fragmental, less silicification.		Pyrite, sph.	5-10	57388	5.0	<.001	.13	.03	-	
107.0 - 112.0	95							(57388	.001	.06	.02)	-
								2-3	57389	<.001	.13	.01
112.0 - 117.0	95	Fragmental, silicification decreasing.		Pyrite>sph.	5-10	57390	5.0	.002	.17	.04	-	
117.0 - 122.0	95			Pyrite>sph.	3-4	57391	5.0	<.001	.12	.02	-	
122.0 - 127.0	95	Local moderate silicification.		Pyrite>sph.	5-10	57392	5.0	<.001	.13	.01	-	
127.0 - 132.0	95	Fragmental struc. evident, minor silicification.		Pyrite.	3-4	57393	5.0	<.001	.12	-	-	
132.0 - 137.0		Broken core, oxidized fragments, localized silicification.		Pyrite	3-4	57394	5.0	.002	.22	-	-	
133.3 - 133.7												
137.0 - ?		Ground core, oxidized, fault. Vuggy quartz vein on frac., 18°. 0.2" of feldspar porphyry(?). Traversed by stringers of finely										
137.? - 137.7?												
37.7? - 157.0		crystalline pyrite, <0.5 in wide. Andesitic tuff. Fragmental, light grey green. Lower contact transitional.										
57.0 - 181.3		Feldspar porphyry. Phenos apparent.		Upper contact area, core broken. Occasional fractures oxidized. Several quartz veins.								
57.0 - 161.5												
59.0 - 77.0				Occasional fractures, oxidized.								
180.0 - 81.3		Sharp contact, shear, 63°.		~50% quartz veins.								

Property Mineral Hill, AK
 (#104) Daly-Alaska N.T.S. 104B-1E
 Project No.

Sheet No. 1 of 5 Hole No. 88-D4

Core Size: BQ

Lat 1+50N	Elev. Approx. 1410 ft.	Dip 0'-45°, 378'-43°	Collared 4 October 1988	Logged by: R.H. Janes
Dep. 1+85W	Depth 378 ft.	Bearing 180°	Completed 6 October 1988	ASSAYS

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS						
								Au oz/t	Ag oz/t	Zn %	Pb %	Cu %		
0-8		Casing.												
8.0 - 46.2		Monzonite porphyry. Plag and K spar 40-50%. Brown biotite, altering to chlorite		Pyrite, disseminated.	<1									
		15-20%. Quartz <5%. Set in aphanitic light grey translucent g.m. Feldspar <0.3 inch, generally ~0.1 inch, K feldspar largest, slightly pinkish.												
45.0 - 46.2		Mislatch. Chilled border. Feldspars decreasing in size as contact approached. G.m. becoming												
46.2 - 119.3		darker → last inch dark grey. Sharp contact, 55°, fracture. Andesitic tuff Mottled light to dark green in		Disseminated and stringers po>py >>chalcopyrite.	1-2									
		irregular bands several inches wide. Lightly speckled due to fine grained: a. fel. laths b. quartz/chert eyes c. sulphides. Occasional												
59.2		irregular masses/shreds of silica>carb, sometimes carrying sulphides (chert). Oxidized fracture.												
3.8-77.0 76.0 - 78.0		Several small (<1 inch) fragments one is of grey chert, vaguely banded.		Po>py>cpy.	2	57395	3.2	.011	.09	-	-	-		
30.8 - 81.5	99	Chert band with stringers of sulphides, also disseminated. Upper contact sinuous, 60° Lower contact sinuous, 47° A chemical sediment, exhalative band		po>>cpy, also disseminated sph.	15-20	57396 (57396)	0.7	.142 .139	1.20 1.16	1.74 1.46)	-	-		

Property Mineral Hill, AK

Sheet No. 2 of 5 Hole No. 88-D4

Project No.

N.T.S.

Core Size:

Lat	Elev.	Dip	Collared	Logged by:								
Dep.	Depth	Bearing	Completed	ASSAYS								
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
113.0 - 113.5				Quartz vein with minor chloritized fragments of wall rock. Upper contact 50°, lower contact 40°.								
114.1 - 114.5 115.0 - 119.3	95			Sliver of vein quartz, parallels core axis. Po.	2-3	57397	4.3	<.001	.06	-	-	-
118.5 - 119.3 119.3 - 130.4		<u>Chert with sulphides</u> Exhalitive band.		Quartz vein, upper contact 46°, lower 32°.								
119.3 - 125.0	95	Sulphides in a siliceous matrix of variable colour (translucent → grey → white) and texture. Upper contact sharp, sinuous 10°.		Sulphides: po, sph, py, gal. Sulphides occur in irregular mixed concentrations, sometimes as shreds/stringers.	10-15	57398 (57398)	5.7	.004 .003	.34 .35	.32 .30	.17 .18	.0 .01
123.0° 123.8 125.0 - 130.4	97	As for 119.3-125.0. Lower contact sinuous, 20-25% fractured,		Irregular masses quartz, ~65%, ~35% carb? Po, sph, pyrite, gal.	5-10	57399 (57399)	5.4	.015 .016	.68 .57	.76 .61	.50 .45)	-
126.9 130.4 - 93.3		oxidized. Sinuous band sph. 0.1 inch thick, 18° to core axis. <u>Cherty andesitic tuff</u>										
30.4 - 136.0	95	Heterogenous, fragments of varied size: tuff → lapilli tuff → breccia. Some sections show fine to paper thin banding/bedding, often irregular, disturbed. Includes occasional chert bands which may carry sulphides.		Po, pyrite	2-3	57400	5.6	.002	.24	.02	-	-

Property Mineral Hill, AK

Sheet No. 3 of 5 Hole No. 88-D4

Project No.

N.T.S.

Core Size:

Lat

Elev.

Dip

Collared

Logged by:

Dep.

Depth

Bearing

Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS				
								Au	Ag	Zn	Pb	Cu
136.0 - 141.0	95			Po, pyrite, sph.	3-5	57401	5.0	.001	.42	.04	-	-
141.0 - 146.0	97	Several siliceous/chert masses/ bands carry sulphides.		Po, sph, pyrite, gal.	~5	57402 (57402)	5.0	.003 .004	.32 .36	.17 .17	.11 .13	.00 .01
143.6 - 144.5 146.0 - 151.0	95	Several fractures, all oxidized.			2-3	57403	5.0	<.001	.23	.02	-	-
146.4 - 147.5 146.0 - 148.0		Several fractures, oxidized. Fine to paper thin bedding, irregular 40°-60°										
150.0 151.0 - 156.0	95	Fault/fracture, core broken, oxidized, ~10°.		Pyrite, po, sph?	3-4	57404	5.0	<.001	.18	.01	-	-
56.0 - 161.0 61.0 - 166.0	98			Po, pyrite.	2-3	57405	5.0	<.001	.12	.02	-	-
66.0 - 171.0 71.0 - 176.0	98			Pyrite, po, sph. Pyrite > po, sph?	3-4	(57406) 57406	5.0	.000 <.001	.18 .19	.04) .01	-	-
	98			Pyrite, po, sph.	3-5	57407	5.0	<.001	.16	.03	-	-
	98			Pyrite, po, sph.	3-5	57408	5.0	<.001	.08	<.01	-	-
76.0 - 181.0 81.0 - 186.0	98			Pyrite, po, sph?	3-4	57409	5.0	<.001	.12	<.01	-	-
	98			Po.	2-3	57410	5.0	<.001	.09	-	-	-
81.5 - 183.0 86.0 - 193.3	95	Several fractures, oxidized.		Po.	1-2	57411	7.3	<.001	2.07	-	-	-

Property Mineral Hill, AK

Sheet No. 4 of 5 Hole No. 88-D4

Project No. N.T.S.

Core Size:

Alt	Elev.	Dip	Collared	Logged by:	
Loc.	Depth	Bearing	Completed	ASSAYS	

Depth	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
7.0 - 37.7		Chert with sulphides. Inclusions/fragments of andesitic tuff - bleached and sericitized. Upper contact intrusive.		Quartz vein, upper contact 43°, lower contact irregular.								
3.3 - 16.4												
3.3 - 10.0	97	Fault/fracture, oxidized, 50°.		Po, pyrite, sph, chalcopyrite.	10-15	57412 (57412)	6.7	.011 .013	1.01 .95	.15 .11	.06 .05	.0 .01
1.5 - 10.0					Po, pyrite, sph, chalcopyrite.	10-15	57413	6.4	.005	.79	.08	.04	.0
16.4 - 17.6	96	Cherty andesitic tuff As before for 130.4-193.3.										
7.0 - 2.0	98	Several chert bands with variable amounts of sulphides. ~40% chert - 2 main bands.		Po, pyrite, sph.	3-4	57414	5.0	.002	.18	.06	-	-
2.0 - 27.0	98				Pyrite, po.	2-3	57415	5.0	.002	0.14	-	-
7.0 - 32.0	98			Pyrite, po.	3-5	57416	5.0	.001	.40	-	-	-
2.0 - 37.0	98			Pyrite, po.	3-4	57417	5.0	<.001	.10	-	-	-
7.0 - 12.0	98			Pyrite, po.	3-5	57418	5.0	<.001	.12	-	-	-
2.0 - 17.6	98			Pyrite, po.	3-4	57419	5.6	<.001	.07	-	-	-
7.6 - 36.1		Andesitic tuff										
7.6 - 52.0					Po, pyrite.	2-3	57420	4.4	<.001	.07	-	-
7.6 - 55.3	98	Fine grained tuff.										
2.0 - 57.0					Po, pyrite.	2-3	57421	5.0	<.001	.06	-	-

Property Mineral Hill, AK
 (#104) Daly Alaska
 Project No. N.T.S. 104B-1E

Sheet No. 1 of 2 Hole No. 88-D5

Core Size: BQ

Lat 1+53N	Elev. Approx. 1410 ft.	Dip 90°	Collared 6 October 1988	Logged by R.H. Janes
Dep. 1+88W	Depth 131 ft.	Bearing -	Completed 7 October 1988	ASSAYS

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.				
1-6 0.0 - 33.3		Casing. <u>Monzonite porphyry</u> Lower contact: intrusive, irregular, mp. intrudes lower granitic(dp).		Slight development of chlorite over 0.5 inches in mp, greater in lower granitic(dp).							
33.4 - 34.4		As in 88-D4. <u>Diorite porphyry</u> . Feldspar phenos <0.25 inch, generally 0.1 inches, euhedral, 40-45%.									
		Brown biotite, frequently chloritized, 10-20%. Set in grey aphanitic gm. Quite different from other feldspar porphyry									
4.4 - 34.9		occurring in andesite sequence. <u>Monzonite porphyry</u> . Sharp upper contact, marked by fractures at 40°. Lower contact chilled,									
4.9 - 109.8		irregular, 40°. Relationship not too clear, mp possible intrusive into grey. dior. porph. <u>Diorite porphyry</u> . As before.									
0.0 - 91.2		Reduction of grain size along several fractures-recrystallized to fine grained. Result of adjacent intrusive.									
08.5 - 109.8		Feldspar phenos diminish in no., recrystallized along several fractures to fine grained, colour lighter.									
09.8 - 110.3		About 5 inches from contact dp is fine grained and light grey. <u>Monzonite porphyry</u> . Fractures mark lower contact.		Shear/fracture marks lower contact, core broken; low angle.							

Property Mineral Hill, AK

Sheet No. 3 of 6 Hole No. 88-D7

Lat		Elev.		Dip		Collared		Core Size:				
Dep.		Depth		Bearing		Completed		Logged by:				
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS				
								Au	Ag	Zn	Pb	Cu
88.0 - 193.0 199.1 - 199.8	98	Fault? oxidized, fractures 45-50.		Pyrite, po.	3-4	57433	5.0	<.001	.09	-	-	-
11.0 11.5 - 15.5 5.5 - 17.8	95	Gradational boundary. <u>Andesitic tuff.</u> Chert. Upper boundary gradational.		Po	1-2 5-10	57434	2.3	<.001	.05	-	-	-
7.3 - 17.5 8.0 - 20.0		Core ground. <u>Andesitic tuff.</u>										
0.0 - 20.3 2.3 - 33.5		Chert, light grey <u>Heterogenous andesitic pyroclastic</u> Fragments of varied size (up to		Negligible sulphides. Po.	2-3							
1.0 - 13.5		several inches) in tuffaceous matrix. Occasional chert masses, shreds. Chert masses (up to 3 inches).		Pyrite, sph.	10	(57435 57435	0.5	.001 .006	.53 .54	2.88)		
1.5 - 9.3 .8 - .7		<u>Andesitic tuff.</u> Occasional irregular masses, wisps of chert (<3 inches). Several parallel fractures, oxidized, ~45°		Pyrite, po.	1							
.3 3.0		<u>Andesite flow breccia?</u> Mottled in shades of grey, generally fine grained. Possible fragments ≤ 4 inches. Chert - carbonate			<1							
.0 - 3.8		shreds. Boundaries gradational. <u>Andesitic tuff.</u> Lower contact 36°		Po, pyrite.	1-2							

Property Mineral Hill, AK

Sheet No. 4 of 6 Hole No. 88-D7

Project No. N.T.S.

Core Size:

Lat		Elev.	Dip	Collared	Logged by:							
Dep.		Depth	Bearing	Completed	ASSAYS							
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
288.8 - 383.9		Cherty andesitic tuff. Heterogenous, fragments up to several inches locally.		Sulphides po, pyrite show greatest concentrations in chert, then accompanied by sph, chalcopyrite and rarely gal.								
288.8 - 293.0	95	Lineations ~40°		Po	1-2	57436	4.2	<.001	.09	-	-	-
293.0 - 298.0	95	Fragments < 4 inches.		Po > pyrite, chalcopyrite.	3-4	57437	5.0	<.001	.11	.02	<.01	.0
298.0 - 303.0	99			Po, pyrite.	3-5	57438	5.0	<.001	.14	.05	-	-
303.0 - 308.0	99			Po, pyrite, sph.	3-5	57439 (57439)	5.0	<.001 .000	.13 .13	.21 .25)	-	-
308.0 - 313.0	98	309.2-309.7 Chert band, ~2 inches wide; sph, pyrite > gal (~10%).		Po, pyrite, sph, gal.	3-5	57440	5.0	<.001	.14	.11	.01	.0
313.0 - 318.0	98			Po, pyrite.	2-3	57441	5.0	.002	.17	.06	-	-
318.0 - 323.0	95			Po, pyrite.	2-3	57442	5.0	<.001	.10	-	-	-
323.0 - 328.0		Fractures, oxidized.										
328.0 - 333.0	95			Po, pyrite.	2-3	57443	5.0	<.001	.07	-	-	-
333.0 - 338.0		Fractures, oxidized.										
338.0 - 343.0	98			Po, pyrite.	1-2	57444	5.0	<.001	.06	-	-	-
	99			Po, pyrite, sph.	1-3	57445	5.0	<.001	.22	.06	-	-
	99			Po, pyrite.	1-2	57446	5.0	<.001	.11	.03	-	-

Lat		Elev.	Dip	Collared	Logged by:							
Dep		Depth	Bearing	Completed	ASSAYS							
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Cu	Pb	Zn
								oz/t	oz/t	%	%	%
1.0 - 15.0		Sulphide concentrations dislocated by minor faulting.		Heavier py-po disseminations and concentrations along fractures and in walls. Quartz along fractures and as replacement more frequent than before.	5-10	57277	5.0	.004	.11	.05	-	-
.0 - 0.0				Sulphide content decreasing.	2-3	57278	5.0	<.001	.08	.01	-	-
.0 - 2.0				Several pyrite stringers and blebs along fractures, some disseminations.	2-3	57279	2.0	<.001	.05	.01	-	-
.5 - 3.0				-----"-----"-----"-----	2-3	57280	1.5	<.001	.01	.03	-	-
9.5 - 20.0				Quartz>calcite vein or replacement along fracture + po>py	5-10	57281	0.5	<.001	.01	.03	-	-
3.3 - 39.5				Several pyrite stringers plus an irregular mass of calcite (running along core axis) replacing host, carries ribbons (~0.1 in) of white min and fine grained pyrite and other sulphide (sphalerite). Ribbons are at replacement front and have reddish tint.	2-3	57282	1.2	.002	.05	.01	-	.08

Property Mineral Hill, AK
 (#120) Shasta Iron N.T.S. 104B-1E
 Project No.

Sheet No. 1 of 2 Hole No. 88-S2

Core Size: BQ

Logged by: R.H. Janes

Lat 0+81S Elev. Approx. 2900 ft. Dip -45 Collared 16 September 1988
 Dec 0+62W Depth 205 ft. Bearing 50 Completed 17 September 1988

ASSAYS

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Cu	Pb	Zn
								oz/t	oz/t	%	%	%
.0 - 205.0		As for DH. 88-S1 Possible calcareous epiclastic derived from andesitic terrain or andesitic tuff.										
.0 - 10.0				Occasional bleb and stringers po and pyrite.	2-3	57299	5.0	.001	.06	<0.1	-	-
.1 - 12.6					1-2	57284	6.5	.004	.05	.01	-	.01
.0 - 2.3		A little darker in colour, some chlorite development. Calcite and chlorite sheath pyrite concentrations.		Disseminations and local concentrations of crystalline pyrite.	3-5	57298	2.3	.003	.08	.02	-	-
.3 - 3.0				Quartz replacing host, ~40% quartz 1-2% calcite, 1-2% po.	1-2	57285	0.7	<.001	<.01	<.01	-	-
0.0 - 21.5				Disseminations and local concentrations of crystalline pyrite.	2-3	57286	1.5	<.001	.06	.01	-	-
5.0 - 7.0				Occasional blebs and stringers of po, pyrite, chalcopryite.	2-3		2.0					
9.5 - 35.1		Section composed of irregular lighter coloured masses (several inches) set in a darker fine grained matrix. Outlines of masses often indistinct. Masses show dark green altered mafic (augite or hornblende) phenos (<0.05 in., 20-25%). Fragmental.				57300	5.6	<.001	.11	<.01	-	-

Property Mineral Hill, AK

Sheet No. 3 of 4 Hole No. 88-S3

Project No. N.T.S.

Core Size:

Lat	Elev.	Dip	Collared	Logged by:								
Dep.	Depth	Bearing	Completed	ASSAYS								
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Cu	Pb	Zn
								oz/t	oz/t	%	%	%
51.0 - 63.5				Two parallel quartz+calcite veins, <1/2" wide, carry 5-10% po, 5° to core axis. Plus smaller veins with po.		57290	2.5	.002	<.01	<.01	-	-
66.5 - 71.0				Occasional blebs and stringers pyrite and po. Veins of quartz and calcite carry po.	2-3	57291	4.5	<.001	<.01	.01	-	-
77.2				Vein, 2", quartz+calcite+fibrous tremolite.								
71.0 - 76.0				Occasional blebs and stringers of pyrite and po.		57292	5.0	<.001	.01	.01	-	-
5.7 - 19.9				Vein, calcite>quartz with po, pyrite, irregular cuts earlier quartz-calcite-amph, veins stringers carrying minor po, pyrite.	2-3	57293	4.2	<.001	.05	.02	-	-
9.0 - 32.0				Blebs and stringers po, pyrite.		57294	3.0	.002	.05	.02	-	-
4.5 - 68.0				Same as above.		57295	3.5	.110	.11	.06	-	-
6.0 91.0 9.0 - 90.0				Blebs and stringers po, pyrite, cpy	5 10-15	57296	5.0	.001	.17	.35	-	.01
0.0 - 15.0		Locally silicified over a few inches.										
0.5 - 35.0 5.0 - 41.0				Blebs and stringers po, py, cpy		57297	4.5	<.001	.06	.02	-	-
				Same as above		57301	6.0	.001	.06	.01	-	-

Property Mineral Hill, AK

Sheet No. 4 of 4 Hole No. 88-S3

Project No. N.T.S.

Core Size:

Elev.		Dip		Collared		Logged by:						
Depth		Bearing		Completed		ASSAYS						
Stage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Cu	Pb	Zn
.0				Sulphide stringer, 20° to c.a.								
.0 - 3.0				Blebs and stringers po, pyrite, chalcopyrite.	2-5	57302	5.0	.001	.06	.01	-	-
.0 - 3.0 .9				Same as above. 1/4-1/2" strand po at 70°	5-10	57303	5.0	<.001	.03	.02	-	-
0 - 3.0				Blebs and stringers po, py>>cpy	~10	57304	5.0	<.001	.03	.02	-	-
0 - 3.0				Same as above.	2-3	57305	5.0	.001	.06	.01	-	-
0 - 3.0				Same as above.	2-3	57306	5.0	<.001	.07	.03		
0 - 3.0				Same as above.	~5	57307	5.0	<.001	.06	.02		
0 - 3.0				Same as above.	5-10	57308	5.0	<.001	.07	.02		
0 - 3.0				Same as above.	3-4	57309	5.0	<.001	.05	.03		
0 - 3.0				Same as above.	3-4	57310	5.0	.002	.04	.03		
0 - 3.0				Same as above.	2-3	57311	5.0	<.001	.04	.01		
0 - 3.0				Same as above.	2-3	57312	5.0	<.001	.03	.01		
0 - 3.0				Same as above.	2-3	57313	5.0	<.001	.01	.01		
		END OF HOLE Note: Recover generally better than 95% Probably an augite crystal tuff.										

Property Mineral Hill, AK
 (#104) Daly-Alaska
 Project No. N.T.S. 104B-1E

Sheet No. 1 of 10 Hole No. 88-01

Core Size: BQ

at 0 + 50N

Elev. Approx. 1450 ft.

Dip 45

Collared 25 September 1988

Logged by: R.H. Janes

ec. 0 + 50W

Depth 458° ft.

Bearing 180

Completed 27 September 1988

ASSAYS

Elevation	Recovery	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS					
								Au	Ag	Zn	Pb	Cu	
								oz/t	oz/t	%	%	%	
- 38 .0 - 48.0		Casing (~2' above ground). Cherty andesitic tuff.											
.0 - 1.0	80	Cream coloured, silicified, no clear structure or texture evident. Locally spotted due to presence of altered mafic phenocrysts. G.M. very fine grained-aphanitic. Sometimes a vague fragmental structure evident.		Veinlets (<0.1") of quartz, pyrite and/or po. Dendritic growth of sulphides out from fractures-veins for <0.5 in.	2-3	57314	3.0	.002	.47	.03	.03	.0	
0 - .0		Light grey green. Variably but moderately silicified. Possible fragments - irregular outline, several inches long, softer than matrix, break up in core. Core locally oxidized, broken along fractures.		Local concentrations of py>>sph, chalcopyrite.	~5								
0 - .0 1.0 2.0	80					57315	5.0	<.001	.13	.03	<.01	.0	
						57316	6.0	<.001	.09	.02	<.01	.0	
1.0 - 2.0	65	Core very broken, mostly oxidized. Possibly largely silicified and cream coloured.		Concentrations of pyrite over several inches (20-30%). Original sulph. content 10-20%? a few broken pieces of vein quartz in box.	~5	57317	7.0	<.001	.34	.04	.01	.0	
2.5 - 3.5		Fragmental, shades of grey green. Fragments generally less than an inch or so long, tend to be round. edges often sharp -		Crystalline py occurs as weak disseminations, blebs, along fractures and locally as fine grained concentrations - t' accompanied	2-5								

Property: Mineral Hill, AK

Sheet No. 2 of 10 Hole No. 88-D1

Project No.

N.T.S.

Core Size:

Lat		Elev.	Dip	Collared	Logged by:							
Dep		Depth	Bearing	Completed	ASSAYS							
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
1.0 - 9.5 cont'd)		possibly corroded. Variable in character: a. light green-cream, silicified.		by minor epidote(?). A few pieces of broken vein quartz in box.								
		b. some carry crystalline pyrite c. possible vein quartz but indistinct Matrix generally darker, medium grey green, grain size		A few scattered veins of quartz and/or carb (no efferv) present, <1/4 inch wide.								
		indistinct, quartz eyes in matrix? Some sections, oxidized-friable (10-20%). Boundaries may be sharp-follow fractures.										
		Possibly due to oxidization of fine grained pyrite in localized concentrations. May extend for up to ~1 ft.										
.0 - 4.0 .0 - 9.5	85 90				2-3	57318	6.0	<.001	.10	.04	<.01	.0
					2-3	57319	5.5	<.001	.10	.02	<.01	.0
		Some fine grained epidote(?) developed in association with fractures and veins										
.5 - 7.5 .0 - ?	60	Silicified, cream coloured, oxidized, surface pitted, core broken.		Pyrite, content originally >5% Quartz vein, chloritized wall rock	~5	57320	8.0	<.001	.10	.03	.01	.0
.5 - 2.5		Fragmental, as before.		fragments, 3" core, broken. Sulphides mainly all pyrite.	5-10	57321	5.0	<.001	.09	.04	<.01	.0

Project No.

N.T.S.

Core Size:

at		Elev.	Dip	Collared		Logged by:						
sp.		Depth	Bearing	Completed		ASSAYS						
Depth	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
1.0 - 2.0		Oxidized along fractures.										
3.0 - 8.0	95	Mottled, as above. Suggests fragmental character, soft-sericite and chlorite alteration(?).			5.0	57328	5.0	<.001	.06	.03	<.01	.01
.0 1.0 - 6.5		Oxidized fracture. Fragmental character evident,		Meta lineation 45° to core axis.								
.0 1.0 - 3.0	95	Mottled, as above.		Quartz vein, 1", 50° to core axis. Localized concentrations pyrite.	2-5	57329	5.0	<.001	.09	.01	.01	.01
.5 - 0.0				Quartz veins, irregular and regular @ 25° to core axis, carry pyrite. <1/4", eroded-oxidized.								
.0 8.0		More even in character. Grey green, andesitic. Possible fragmental-tuff.		Laced with veinlets/stringers quartz-carb.	~ 2	57330	5.0	<.001	.12	.01	<.01	.01
.7 - 7.2		Light grey very fine grained siliceous/silicified fragment, contacts sharp, dislocated.		Carries mr. disseminated po, chalcopryite.								
.0 - 3.0	95	Even character. Grey green, grain size not discernable. Andesitic appearance.		Disseminated pyrite frequently surrounded by dark min-sph? A few stringers present.	~2	57331	5.0	<.001	.08	.01	<.01	.01

Property Mineral Hill, AK

Sheet No. 6 of 10 Hole No. 88-D1

Project No.

N.T.S.

Core Size:

Elev.

Dip

Collared

Logged by:

Depth

Bearing

Completed

ASSAYS

Stage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS						
								Au	Ag	Zn	Pb	Cu		
0		Fine grained tuff? Possibly siliceous fragment, 2-3 inches, contains greyish blue, very fine grained, rounded fragments set												
0		in light grey aphanitic matrix, edges of fragments diffuse. Fracture/fault, oxidized.												
0 - .0	95	Variable character. Becoming more silicified with depth.		Sulphides increase w. silicification, locally 10-20% over few inches, mainly stringers. pyrite > sph. Pyrite zones tend to be surrounded	10-15	57332 (57332)	5.0	<.001 .000	.12 .11	.05 .02	<.01 .01	.02 .02		
0 - .1				by dark min.-chlorite and/or sph. Sph evident 146-148. Quartz-carb (no efferv) vein, lower contact 42°; upper contact-fault.										
0 - .3				Chlorite below lower contact. Stringers sulphides and quartz vein along contact, 22° to core axis.										
0 - .5		Oxidized, core broken.												
0 - .3		Feldspar porphyry. Feldspar pheno ghosts, diffuse		Occasional quartz veinlets/veins, <5%.										
		edges, some could be broken crystals, <0.2 inch, gen ~ 0.1 in, 20-40%. Set in soft grey green gm, grain size not evident, sericitized? Member of andesitic												
0 - .98		sequence, could be intrusive flow.		Occasional stringers and disseminations po, py, cpy. Decreasing with depth.	3-4	57333	6.0	<.001	.04	.01	<.01	<.01		

Project No.

N.T.S.

Core Size:

Lat	Elev.	Dip	Collared	ASSAYS								
Dep.	Depth	Bearing	Completed									
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
6.5				Quartz vein, 1.25 inches, upper contact oxidized, 33° to core axis. Specks po, gradually increase towards contact.	2-3	57334	3.3	<.001	.03	.01	<.01	<.01
6.0 - 89.3	99											
7.5 - 89.3		Chilled border, lighter colour.										
9.3 - 09.6		Cherty andesitic tuff. Fragmental, andesitic, with zone of silicification.										
9.3		disruption and mineralization (sulphide). Quartz stringer, 1 inch, edged by sulphides, 40° to core axis.										
9.3 - 09.6		Mostly silicified, disrupted and mineralized.										
9.3 - 3.5	97	Weakly silicified, disrupted. Fragment character evident.		Fracture lineation(?) -30° to c.a.	3-5	57335	4.2	<.001	.15	.06	.01	.02
		Mottled light grey to dark green grey. Grey fragments contain/show altered mafic phenos-fragments up to several inches.										
3.5 - 99.3		Intensely silicified, cream coloured. Silicification appears to be later than sulphide mineralization.		Sulphides pyrite, po, sph, gal. mainly as stringers and crystal clusters.	5-10	57336 (57336)	5.8	.100 .099	.33 .25	.98 .88	.02 .02	.03 .02
9.3 - 14.9	98	Silicification decreases with depth; darker andesitic character returning.		Veinlets-stringers quartz. Sulphides mainly as crystal clusters, po>pyrite.	3-4	57337	5.6	<.001	.28	.02	<.01	.01
1.9 - 19.6	98	Mostly silicified, cream coloured, disrupted.		Where developed lineation is 20°-25° to core axis. Po, py>sph.	~10	57338	4.7	.001	.17	.04	.01	.02

Property Mineral Hill, AK

Sheet No. 9 of 10 Hole No. 88-DT

Project No.

N.T.S.

Core Size:

Lat		Elev.	Dip	Collared		Logged by:						
Dec.		Depth	Bearing	Completed		ASSAYS						
Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	Au	Ag	Zn	Pb	Cu
01.5 - 302.3 04.9 - 305.1		Oxidized fractures.		Paper thin fractures(?) - dark lines, 45°-50° to core axis.								
07.7 - 308.0 08.0 -		Core broken. Mixed "silica", pyrite-po and shale. Look to be all contemporaneous. Comminuted plus chips of shale,										
308.5?		fault.										
09.5 - 310.0 3.0		Fracture, oxidized, in lighter grey green fragment. Oxidized fracture.										
13.0 - 313.7		Banding, possibly bedding.										
4.7 - 336.5		Fragmental. Matrix and fragments predominantly light grey green, very fine grained, soft. Possibly		Quartz and/or carb veins, etc. continue. Occasional stringers and crystal clusters of po, pyrite.	2-3							
3 9		tuff or argillite. Shale fragments continue, highly fragmented. Also amorphous masses (<2 inches) of quartz + carb 10-20%.										
3 1.0 - 333.0	98			Pyrite, po.	5-10	57343	2.0	<.001	.15	-	-	
4 6.5 39 01.0		Fragmental. Mixed fragments, dark grey blue shale and light green tuff/argillite. Matrix more generally grey blue shale.		Occasional stringers pyrite-po. Quartz and/or carb veins, etc. as before	2-3							

Property Mineral Hill, AK

Sheet No. 10 of 10 Hole No. 88-D1

Project No. N.T.S.

Core Size:

at	Elev.	Dip	Collared	Logged by:
er.	Depth	Bearing	Completed	

Depth	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Lt.	ASSAYS					
								Au	Ag	Zn	Pb	Cu	
.5 - 8.0				Quartz veins, irregular, 1 inch wide, 26° to core axis., core broken, lightly oxidized.									
.5 - 6.3		Fractures, parallel, oxidized											
.4		Fault, 0.5 inch mylonite?, 78°											
.7 7.7 0 - .0	100	Fragmental character lessening.		Po>>chalcopyrite.	3-5	57344	2.0	<.001	.12	-	-	-	
0 .5 5 - .5?		Andesitic tuff, light grey green, soft, altered. Low angle fractures, oxidized		Laced with carb and/or quartz veins, stringers. Several low angle quartz veins, reg to irreg. Irreg veins have									
5 - .0		Fragmental, as before for 336.5-401.0.		diffuse edges.									
0		END OF HOLE											
<p>Note: Lost water circulation at start. Hole collared in oxidized sulphide zone. Check assays run on combined rejects and pulp are shown in brackets. All material ground to mesh - 150 and sieved for metallic gold.</p>													